PUBLIC REVIEW DRAFT INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

# KIPP: Ignite ACADEMY

## School Project

LEAD AGENCY:

**County of**
**Los Angeles**
**Department of Regional Planning**
320 West Temple Street
Los Angeles, CA 90012
Attn: Mr. Sean Donnelly
Regional Planner
**(213) 316-8491**

PREPARED BY:

**envicom**
CORPORATION
4165 E. Thousand Oaks Blvd., Suite 290
Westlake Village, CA 91362
Contact: Mr. Carl Lindner
Senior Project Manager
**(818) 879-4700**

May 2022

# KIPP LA IGNITE ACADEMY SCHOOL PROJECT

## PUBLIC REVIEW DRAFT INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

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*Lead Agency:*

**COUNTY OF LOS ANGELES**
**DEPARTMENT OF REGIONAL PLANNING**
320 West Temple Street
Los Angeles, CA 90012
Attention: Sean Donnelly, Regional Planner

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4165 E. Thousand Oaks Blvd. Suite 290
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Attention: Carl Lindner, Senior Project Manager

May 2022

Revised 05/05/22

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# Environmental Checklist Form (Initial Study)

**County of Los Angeles, Department of Regional Planning**

**Project title:** KIPP Ignite Academy School Project / Project No. 2019-002271/
Case No(s). RPPL2021000118

**Lead agency name and address:** Los Angeles County, 320 West Temple Street, Los Angeles, CA 90012

**Contact Person and phone number:** Sean Donnelly, (213) 316-8491

**Project sponsor's name and address:** Kyle Salyer, KLARE 15 LLC (Ignite)
3601 East 1st Street, Los Angeles, CA 90063

**Project location:** 1628 E. 81st Street, Los Angeles, CA 90001
*APN*: 6027-003-032
*USGS Quad*: South Gate

**Gross Acreage:** 1.06 acres

**General plan designation:** The Project site land use designation is Residential 18 (H18), which allows for a residential density of 0-18 dwelling units/acre.

**Community/Area wide Plan designation:** The Florence-Firestone Community Plan designation is also Residential 18 (H18).

**Zoning:** The existing zoning designation for the Project site is R-3, which allows for apartments, as well as two-family and single-family residential uses. Schools are a permitted use within the R-3 Zone with a Conditional Use Permit (County Code 22.18.030.C.1).

**Description of Project:** The property is currently improved with a deteriorated paved surface parking lot and landscaping. There are no structures on site. The Project involves the construction of a new two-story, Type IIIB building to accommodate a public charter school facility with an underground parking garage, landscaping and multiple playground areas, on an existing, currently vacant, approximately 1.06 acre parcel in the Florence-Firestone Community Plan area of the County of Los Angeles. It will serve up to 600 students in Kindergarten through 8th grades. The proposed new construction will have a gross building area of 34,044 square feet that includes 17,925 square feet on the first floor and 16,119 square feet on the second floor. The building will be located entirely within the approximately 44,866 SF parcel. It will contain 24 classrooms, administrative offices, student and staff bathrooms, open play yards and a multipurpose room with integrated serving area. The site will be improved with one level of subterranean on-site parking, integrated student pick-up and drop-off area, outdoor recreation areas and landscaping throughout. Development of the new school facility will occur over an estimated one year timeframe, with construction beginning in August 2022 and occupancy occurring in August 2023.

**Surrounding land uses and setting:**
The current site is a vacant parking lot completely surrounded by dense urban development. Surrounding land uses include single and multi-family residential, in single and two-story residences along 81st Street to the north and west, single and multi-family residential, in single and two-story residences along 82nd Street to the south, and commercial and light industrial businesses and warehouses to the east along Maie Ave. Approximately 350 feet to the east of the site and adjacent to the light industrial facilities are four parallel rail sidings, which

accommodate the Los Angeles County Metropolitan Transportation Authority's (Metro's) Blue Line commuter service and freight service to the industrial facilities.

**Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code § 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?** Yes. The County mailed a notification letter to two (2) California Native American Tribes, including the San Gabriel Band of Mission Indians and Gabrieleno Band of Mission Indians on October 19, 2021, describing the Project and informing tribes they had 30 days from receipt to request consultation. One tribe, the Gabrielino Band of Mission Indians, requested consultation. The County held a consultation meeting with representative of the Gabrielino Band of Mission Indians on January 4, 2022 to discuss the Project, tribal cultural resources, and potential mitigation measures. The Gabrielino Band of Mission Indians' representatives sent supplemental information and draft mitigation measures to the County on January 20, 2022. Final mitigation measures and consultation was concluded on February 24, 2022. Proposed tribal cultural resources mitigation measures are provided below in Section 18, Tribal Cultural Resources.

**Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement):**

| *Public Agency* | *Approval Required* |
|---|---|
| DPW Div. of Bldg. & Safety | Building Permits |
| ______ | ______ |

**Major projects in the area:**

| *Project/Case No.* | *Description and Status* |
|---|---|
| ______ | ______ |
| ______ | ______ |
| ______ | ______ |

**Reviewing Agencies:** [*See* **CEQA Appendix B** *to help determine which agencies should review your project*]

*Responsible Agencies*

☒ None

Regional Water Quality Control Board:

- ☐ Los Angeles Region
- ☐ Lahontan Region

☐ Coastal Commission

☐ Army Corps of Engineers

☐ LAFCO

*Special Reviewing Agencies*

☒ None

☐ Santa Monica Mountains Conservancy

☐ National Parks

☐ National Forest

☐ Edwards Air Force Base

☐ Resource Conservation District of Santa Monica Mountains Area

*Regional Significance*

☒ None

☐ SCAG Criteria

☐ Air Quality

☐ Water Resources

☐ Santa Monica Mtns. Area

☐

*Trustee Agencies*

☒ None

☐ State Dept. of Fish and Wildlife

☐ State Dept. of Parks and Recreation

☐ State Lands Commission

*County Reviewing Agencies*

☒ DPW

☒ Fire Department
- Land Development Unit
- Health Hazmat

☐ Sanitation District

☒ Public Health/Environmental Health Division: Land Use

☐ University of California (Natural Land and Water Reserves System)

Program (OWTS), Drinking Water Program (Private Wells), Toxics Epidemiology Program (Noise)

☒ Sheriff Department

☐ Parks and Recreation

☐ Subdivision Committee

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project.

- ☐ Aesthetics
- ☐ Agriculture/Forestry
- ☒ Air Quality
- ☒ Biological Resources
- ☒ Cultural Resources
- ☐ Energy
- ☒ Geology/Soils
- ☐ Greenhouse Gas Emissions
- ☒ Hazards/Hazardous Materials
- ☐ Hydrology/Water Quality
- ☐ Land Use/Planning
- ☐ Mineral Resources
- ☒ Noise
- ☐ Population/Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation
- ☒ Tribal Cultural Resources
- ☐ Utilities/Services
- ☐ Wildfire
- ☒ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Department.)
On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature (Prepared by)

Date

Signature (Approved by)

Date

## EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources the Lead Department cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the Lead Department has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level. (Mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced.)
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA processes, an effect has been adequately analyzed in an earlier EIR or negative declaration. (State CEQA Guidelines § 15063(c)(3)(D).) In this case, a brief discussion should identify the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of, and adequately analyzed in, an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
7) The explanation of each issue should identify: the significance threshold, if any, used to evaluate each question, and; mitigation measures identified, if any, to reduce the impact to less than significance. Sources of thresholds include the County General Plan, other County planning documents, and County ordinances. Some thresholds are unique to geographical locations.

## PROJECT DESCRIPTION

### Project Overview

The property is currently improved with a deteriorated paved surface parking lot and landscaping. There are no structures on site. The proposed Project involves the construction of a new two-story, Type IIIB building to accommodate a public charter school facility with an underground parking garage, landscaping and multiple playground areas, on the existing, currently vacant, approximately 1.06 acre parcel. It will serve up to 600 students in Kindergarten through 8th grades at full capacity. The proposed new construction will have a gross building area of 34,044 square feet (SF) that includes 17,925 SF on the first floor and 16,119 SF on the second floor. The building will be located entirely within the approximately 44,866 SF parcel. It will contain 24 classrooms, administrative offices, student and staff bathrooms, open play yards and a multipurpose room with integrated serving area. The site will be improved with one level of subterranean on-site parking, integrated student pick-up and drop-off area, outdoor recreation areas and landscaping throughout. Development of the new school facility will occur over an estimated one year timeframe, with construction beginning in August 2022 and occupancy occurring in August 2023. Once completed the school will be operative from 7:00 am to 6:00 pm, with regular school hours from 7:00 am to 4:00 pm and after school care running from 4:00 pm to 6:00 pm.

The site at 1628 East 81st Street, Los Angeles, CA 90001 is located in the Florence-Firestone Community of the County of Los Angeles, south of Florence Avenue and west of Alameda Street, as shown in **Figure 1, Vicinity Map** and **Figure 2, Regional Location Map**.

KIPP Ignite Academy is currently operating from two temporary sites located at 9110 South Central Avenue, Los Angeles 90002, and 7651 South Central Avenue, Los Angeles 90002. Kindergarten through first grade are located at 9110 South Central Avenue, and second through fourth grades are located at 7651 South Central Avenue. The school acquired the Project parcel in 2018 with the intent of constructing a permanent school facility to serve students in Kindergarten through 8th grades. The proposed Conditional Use Permit (CUP) will allow the development and construction of the new two story permanent school facility.

### Land Area

The subject property is 44,866 square feet or 1.06 acres and commonly known as 1626 East 81st Street, Los Angeles, CA 90001.

### Building Area

The site is currently a vacant deteriorated surface parking lot with no buildings or structures. The proposed building will have a gross area of 34,044 SF comprised entirely of new construction.

### Student Enrollment

The current enrollment at the school at its temporary locations is 408 students. The maximum enrollment at the subject site will be 600 students. The school will be at full enrollment when the new school building opens in August 2023.

### Classrooms and Facilities

The new two-story freestanding building with underground parking will contain 24 classrooms, administrative offices, student and staff bathrooms and a multipurpose room with integrated serving area.

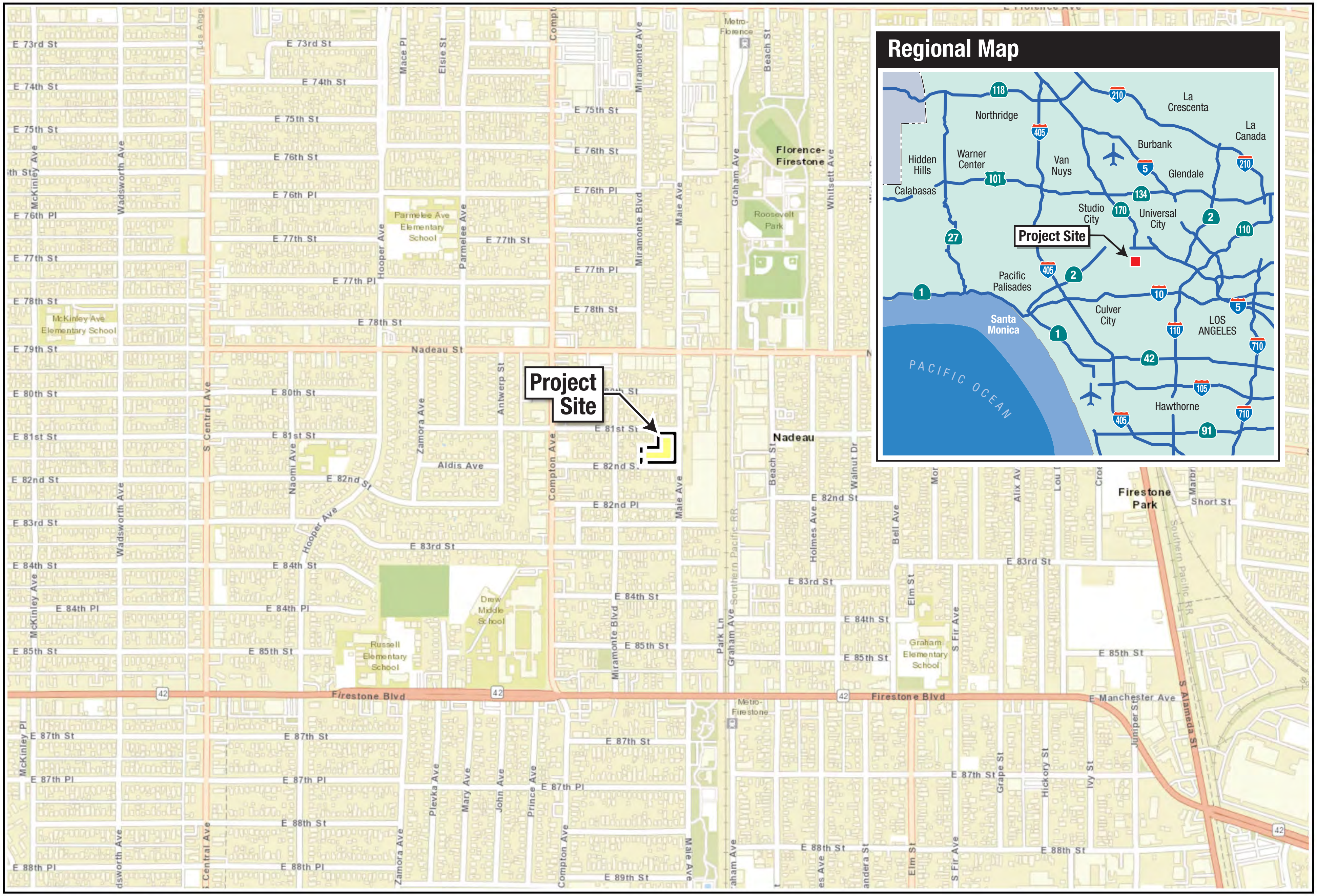
Source: Valtus Imagery Services: Hexagon Imagery Program (HxIP), 2018.

envicom

## Vicinity Map

FEET 0 1,000 2,000

FIGURE 1



Source: ESRI, World Street Map, 2020.

KIPP LA IGNITE ACADEMY SCHOOL PROJECT – PUBLIC REVIEW DRAFT INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

# Regional Location Map

FEET 0 500 1,000

FIGURE 2

### Project Site Location and Access

The Project site is located at E 81st Street and Maie Avenue within Los Angeles County. The site is bounded by the larger thoroughfares of Nadeau Street to the north, Firestone Boulevard to the south, Compton Avenue to the west, and Alameda Street to the east. Primary regional access to the site is via Nadeau Street and Firestone Boulevard as east west thoroughfares and via the 110 Freeway via the Manchester/Firestone Boulevard exit, to the west and Alameda Street to the east as north south thoroughfares. Site ingress will be provided from E 81st Street and egress via Maie Avenue. The onsite drop off and pick up area will consist of two aisles to facilitate vehicular movement.

### Surrounding Land Uses

Surrounding land uses include residential development with single-family and multifamily dwellings to north, south and west, and commercial, light industrial, and warehousing uses to the east. Other land uses in the vicinity include public parks and recreational areas including Franklin D. Roosevelt Park, which includes play fields, a community center and gymnasium. Schools in the area include Parmalee Ave. Elementary School (ES), Russell ES, St. Malachy School, Drew Middle School and Pat Brown High School.

The immediately adjacent properties include single-family and multifamily dwellings in single and two-story residences along 81st Street to the north and east, single-family and multifamily dwellings in single- and two-story residences along 82nd Street to the south, and commercial warehouses to the east along Maie Avenue. See **Figures 3 through 6** for Existing Condition Photographs.

### Public Transportation

Multiple services, including the Los Angeles County Metropolitan Transportation Authority (Metro) and Los Angeles Department of Transportation (LADOT) provide public transportation in the Project vicinity via multiple bus lines and light rail, including the Metro 55/355 Bus Line, Metro 254 Bus Line, LADOT DASH CSQ Line (Chesterfield Square), and the Metro Blue Line light rail, Florence and Firestone station stop. The Project site is also served by the LA County Link Shuttle, Florence-Firestone/Walnut Park, which provides transit service to connect the Florence-Firestone/Walnut Park communities to key destinations. The Link shuttle serves the Metro Rail Blue Line and also connects with the LADOT DASH and Metro bus systems.[1] For additional information, see **Figure 7, Vicinity Public Transportation Routes**.

### Proposed Project Site and Project Components

The Project will construct a new two-story public charter school facility. Project components include 24 classrooms, administrative offices, student and staff bathrooms and a multipurpose room with integrated service area, on-site underground parking, integrated student pick-up and drop off, outdoor recreation areas and landscaping throughout as shown in **Figure 8, Site Plan.** A breakdown of the proposed total floor area is provided in **Table PD-1, Proposed Building Gross Area.**

**Table PD-1**
**Proposed Building Gross Area**

| Building | Building Area (SF) |
|---|---|
| 1st Floor | 17,925 SF |
| 2nd Floor | 16,119 SF |
| **Total** | **34,044 SF** |
| Source: Berliner Architects, August 5, 2020. | |

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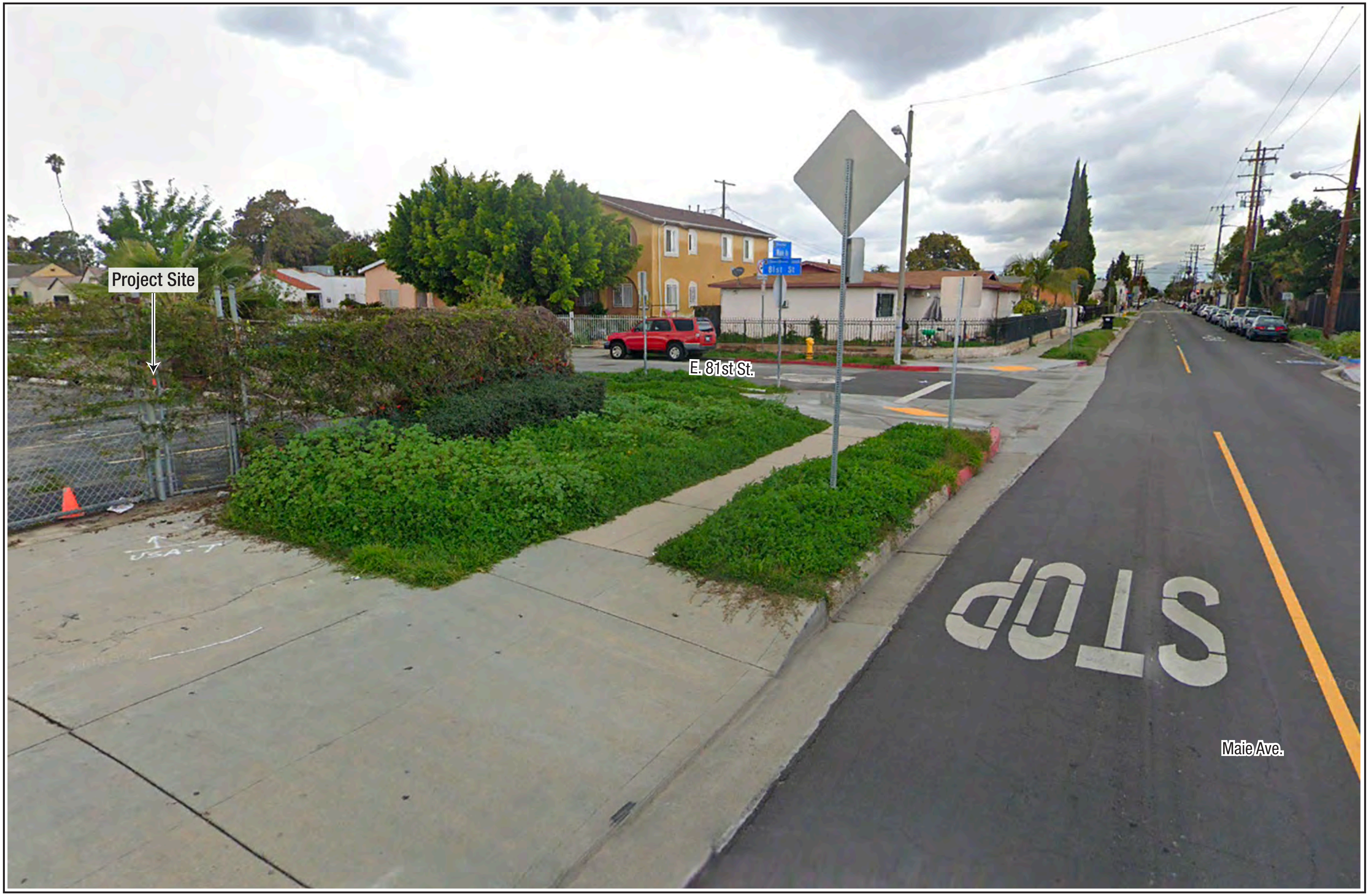
[1] Los Angeles County, Public Works, The Link- Florence-Firestone/Walnut Park, Accessed on October 13, 2020 at: https://dpw.lacounty.gov/transit/TheLinkFlorenceFirestone.aspx.



Source: Google Maps Street View, 2020.

North Side of 81st Street, Single Family Residences

FIGURE 3

Source: Google Maps Street View, 2020.

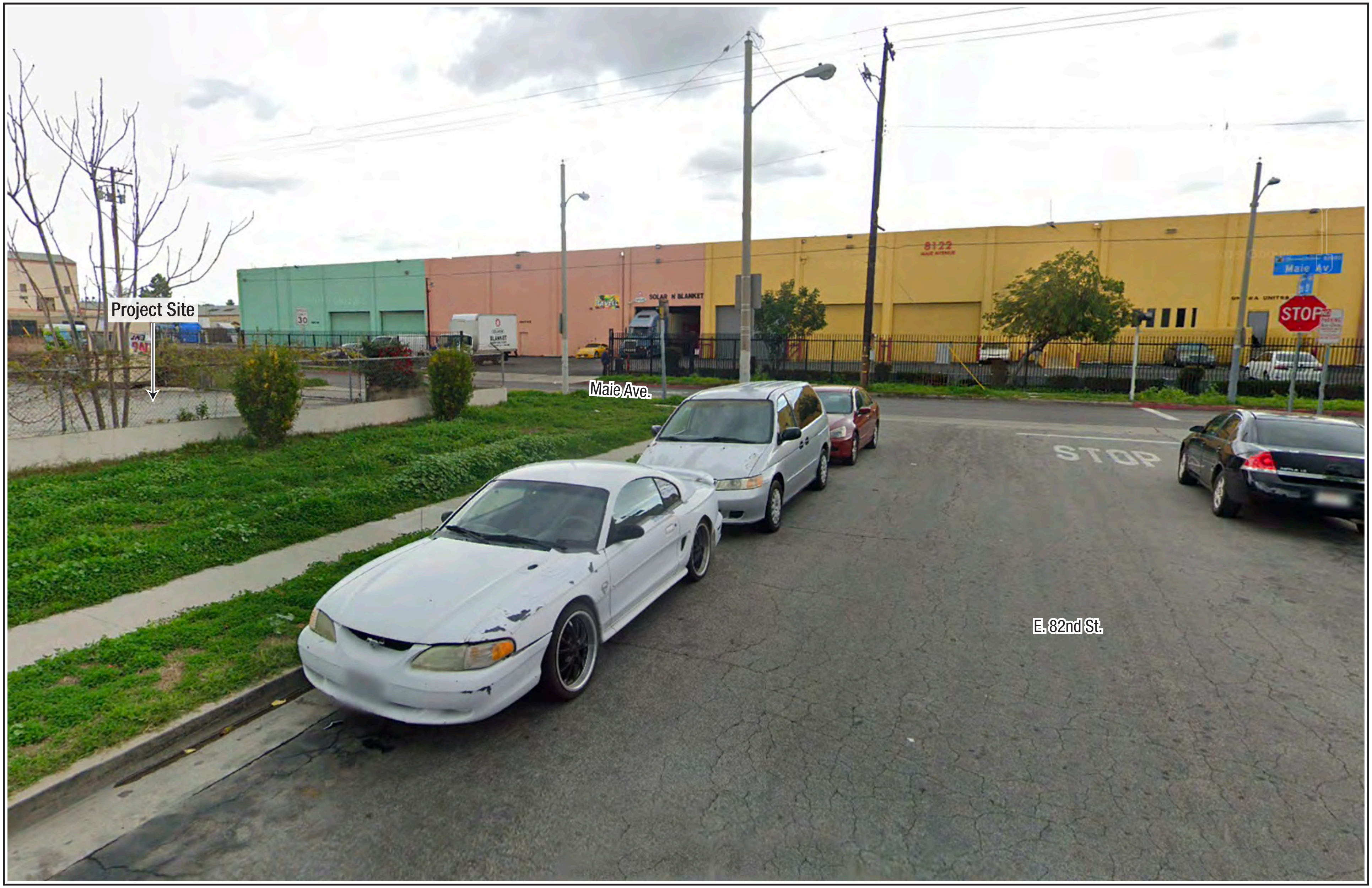
# South Side of 81st Street, Single Family Residences

FIGURE 4

Source: Google Maps Street View, 2020.

South Side of 82nd Street, Single Family Residences

FIGURE 5



Source: Google Maps Street View, 2020.

# East Side of Maie Avenue, Commercial Warehouses

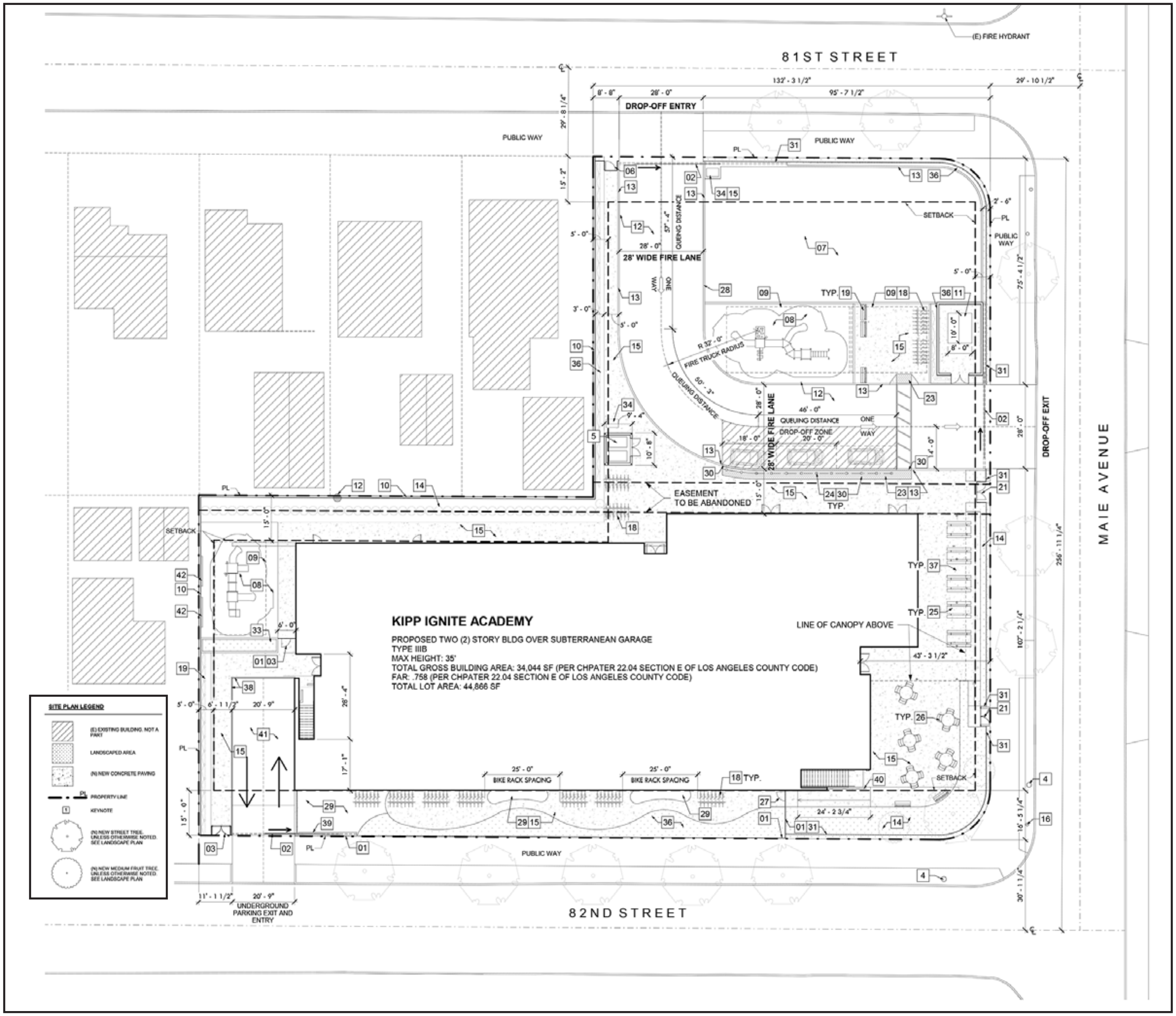
FIGURE 6

Source: Google Earth Pro, Mar. 14, 2020.

Vicinity Public Transportation Routes

FEET 0 250 500

FIGURE 7



Source: Berliner Architects, Oct. 23, 2020.

Site Plan

FIGURE 8

The Project site will be a closed campus and include perimeter walls and fencing. The Project will include a monitored security system including external cameras and intrusion alarms onsite.

The Project site is currently comprised of a vacant, deteriorated asphalt parking lot and landscaping on perimeter portions of the site. The site was previously developed and is comprised of relatively flat terrain, sited at an elevation of approximately 127 feet. The Project site vegetation consists of non-native landscaping around the perimeter as well as invasive herbaceous species. The existing asphalt parking lot is partially concealed by a cinder block wall with overgrown vegetation and a chain link fence. Two chain link sliding gates are located on the eastern site boundary.

### Summary of Project Site Parcels

The Project site is identified by Assessor Parcel Number (APN) 6027-003-032.

### Land Use and Zoning

The General Plan and Florence-Firestone Community Plan Land Use designation for the subject property is H-18 (Residential-18), consistent with all the surrounding properties to the north, south, and west. The H-18 designation allows for residential development at a maximum density of 18 du/acre and supports provision of educational facilities to service residential development. The Project is proposed on an underutilized surface parking lot in a heavily urbanized area of the County, and, as such, constitutes an "infill" development pursuant to the County General Plan.

All of the subject parcels and the nine adjoining parcels are zoned R-3 (Limited Density Multiple Residence), consistent with the surrounding properties to the north, south, and west. The properties to the east are zoned IL (Light Industrial). The R-3 zone allows limited density multiple residence and permits apartment houses and uses that are permitted in Zones R-1 (Single-Family Residence) and R-2 (Two-Family Residence) (Title 22.18.030.C).

The Project requires a conditional use permit ("CUP") to authorize the construction and operation of the proposed elementary school and associated amenities within the R-3 zone (see LACC 22.18.030). As the Project will be subject to compliance with a CUP regulating the operation, maintenance and use of school facilities on the property, the Project will be consistent with the use provisions and design standards of the R-3 zone.

### Elevations

The proposed new building will be two stories in height and not exceed the height limit of 35 feet, inclusive of any roof-mounted equipment or parapets. An eight-foot wrought iron fence will surround the proposed building. The exterior architectural finishes and the massing of the building include contrasting materials and colors. The base of the building is finished in plaster and standing seam metal panels used on key portions of the elevations. The standing seam provides color and texture, and shadow at these important elevations. The massing and articulation of the building has been designed to create interest and to announce entry points into the building. At the residential edges of the site, the mass of the building has been pulled back to respect the privacy of the neighbors.

### Parking

The LA County Code (LACC or County Code) 22.52.1200.A requires 1 parking space for every classroom. As the Project proposes 24 classrooms, 24 parking spaces are required. In addition, 1 parking space will be required for every 5 occupants of the largest assembly space. This will result in 31 additional parking spaces for a total of 55. Applying the bicycle parking reduction will reduce the spaces required by 2, to 53.

The Project will include 40 standard spaces, which include 2 Americans with Disabilities Act (ADA) accessible spaces per California Building Code (CBD) Table 11B.208.2, and 3 electric vehicle charging station (EVCS) spots per Cal Green Table 5.106.5.3.3. Additionally, the Project will provide 11 compact spaces at 40 percent maximum compact per LACC 22.25.1082. The Project will also provide 1 ADA van space and 1 ADA van space with EVCS.

Per Table 22.112.060-A of the County Code, the parking requirements for the Project are shown in **Table PD-2, County Code Parking Calculation,** below.

**Table PD-2**
**County Code Parking Calculation**

| Use | Units | Quantity | Parking Rate | Required Spaces |
|---|---|---|---|---|
| School | Classrooms | 24 | 1 space per classroom | 24 |
| Largest Assembly Space | Occupants | 155 | 1 space per 5 occupants | 31 |
| | | | **Subtotal Required Parking Spaces** | **55** |
| | | | Bicycle Parking Reduction | -2 |
| | | | **TOTAL REQUIRED PARKING SPACES** | **53** |
| Source: Linscott, Law & Greenspan, Transportation Impact Analysis, October 1, 2021. Included as Appendix I-1. | | | | |

**Bicycle Parking**

Bicycle parking will be provided as required by LACC 22.52.1225. Four short-term parking spots per classroom are required. As the Project proposes 24 classrooms, 96 short-term bike parking spots will be required for school use. One long-term bike parking spot is required per every ten classrooms. As such, the Project will provide 3 long-term bike parking spots for school use.

Per Table 22.112.100-A of the County Code, the bicycle parking requirements for the Project are shown in **Table PD-3, County Code Bicycle Parking Calculation,** below.

**Table PD-3**
**County Code Bicycle Parking Calculation**

| Type | Units | Quantity | Parking Rate | Required Spaces |
|---|---|---|---|---|
| Short-Term | Classrooms | 24 | 4 spaces per classroom | 96 |
| Short-Term | Classrooms | 4 | 2 spaces per car parking spaces reduced | 4 |
| Long-Term | Classrooms | 24 | 1 space per 10 classrooms | 3 |
| Source: Linscott, Law & Greenspan, Transportation Impact Analysis, October 1, 2021. Included as Appendix I-1. | | | | |

As summarized in Table PD-2 above, prior to consideration of adjustments related to bicycle parking, the Project is required to provide 55 vehicular parking spaces. Additionally, as summarized in Table PD-3 above, the Project is required to provide 96 short-term bicycle parking spaces and three long-term bicycle parking spaces. As the Project is providing more than the minimum number of required bicycle parking spaces (an additional 4 spaces, one vehicle parking space can be removed for every additional two bicycle parking spaces provided. Therefore, with consideration of the adjustment due to the excess bicycle spaces provide, the Project is required to provide a total of 53 vehicular parking spaces. The Project proposes to provide 53 parking spaces within an onsite subterranean parking garage. Therefore, the Project will not provide more parking than required by the County Code.

### Transportation Management Plan

Ignite Academy will implement a Transportation Management Plan with prescribed drop off and pickup procedures and requirements. The plan will be provided to all students and parents and reinforced via proactive communications and monitoring.

### Site Development

The 1.06-acre Project site will be cleared by demolishing the existing vacant deteriorated asphalt parking lot along with all the existing hardscape, landscape, perimeter fences and walls, and two power poles. The debris will be hauled by a licensed carrier to an appropriate solid waste facility. See **Table PD-4 below, Construction Equipment by Phase**.

**Table PD-4**
**Construction Equipment by Phase**

| Phase | Quantity and Equipment Type |
|---|---|
| Demolition | 1 Loader |
| Grading | 1 Dozer |
| | 1 Drill Rig |
| | 1 Excavator |
| | 1 Loader |
| Building Construction | 1 Crane |
| | 1 Forklift |
| | 1 Generator Set |
| | 1 Backhoe |
| | 3 Welders |
| | 1 Pump |
| | 1 Other Material Handling Equipment |
| | 1 Man Lift |
| Paving | 1 Cement/Mortar Mixer |
| | 1 Pavers |
| | 1 Paving Equipment |
| | 1 Roller |
| | 1 Tractor/Loader Backhoe |
| Architectural Coating | 1 Air Compressor |

The 19,000-square foot subterranean parking garage will require over excavation. Approximately 11,750 cu. yds. of earth will be removed and exported to a facility in Irwindale. The excavation will be shored, and forms will be constructed. Concrete will be poured into the forms to complete the 15"-thick concrete foundation wall which will be back-filled. Soldier piles will be drilled in place and a concrete podium installed above. The finished parking level will be concrete with a mat foundation and concrete podium overhead upon which the wood-framed structure will be constructed. The finished height of the subterranean garage will be 10’ 2”.

The first and second floors will be constructed directly over the garage on the concrete podium supported by the drilled piles previously discussed. They will be wood-framed, with some steel columns and beams at the larger spans. The exterior envelope will be covered in plywood and clad primarily with painted plaster, along with standing seam panels at some select areas. The two-story freestanding building will contain 24 classrooms, administrative offices, student and staff restrooms, multipurpose room with an integrated serving area and recreation areas. The proposed two (2)-story Type IIIB building, including the subterranean parking garage, will be a fully-sprinklered building with automatic fire alarm and emergency communication system. The total gross building area is 34,044 square feet, which includes 17,925 square feet on the first floor and 16,119 square feet on the second floor and excluding the subterranean parking garage. The building will be completed with all electrical, plumbing, and lighting as per the approved plans.

The roof is proposed to be a flat roof and will accommodate the HVAC equipment, screened by the rooftop parapet. It will be comprised of steel trusses topped with plywood and covered in a SARNAFIL PVC roof membrane. It will be a cool roof with adequate thermal emittance and solar reflectance or SRI values per California green standards code. There is an area on the south side of the roof designated for future solar installation. All drainage from the roof will be directed to on site infiltration basins.

The building will be located within the approximately 44,866 SF parcel. Total building height (including the parapet) will not exceed the height limit of 35 feet. Construction duration is anticipated to be approximately one year.

The site will be graded for new hardscape, an asphalt drive aisle, and landscape around the building. A new concrete driveway and car ramp will be provided at the southwest corner of the site, leading to the new subterranean garage. Two play areas with play equipment will be provided at the site. One will be located to the west of the building and will be used by the Kindergarten students, while the other will be located to the north of the building and will be used by the older children. There will be two new power poles installed in the parkways on the east and west sides of Maie Avenue. The power lines will be undergrounded between the new pole outside the school and the new transformer and school building.

To promote the recycling of construction waste materials, the California Green Building Standards Code (CALGreen) requires that most new construction and some additions and alterations divert at least 50 percent of its construction waste. State law (Assembly Bill 939) requires jurisdictions to implement programs to achieve 50 percent diversion of all solid waste from landfill disposal.[2] The Project will comply with this code.

### Landscaping

Proposed landscaping will screen the school from the existing residences to the north, south and west and from the industrial uses across Maie Avenue to the east. The planting plan calls for the installation of 47 landscape trees and several hundred additional shrubs and vines around the perimeter of the site. Sod will be planted in the parkways between the street and sidewalk. Synthetic turf is proposed for the play areas. A proposed garden wall and trellis with flowering vines will screen the Project from existing residences along the north and western perimeters. A proposed eight-foot-tall concrete masonry unit CMU wall with flowering vines will screen the Project from existing residences along the western and northwestern perimeter. An eight-foot-tall wrought iron fence with perforated panels and vines will complete the perimeter along 81st Street, 82nd Street and Maie Avenue. Landscaping will improve the aesthetics of the site, while the planting of trees,

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[2] California Department of Resources Recycling and Recovery, State of Recycling in California, March 2015.

hedges and a perimeter wall with flowering vines and fencing will appropriately buffer and screen the new school from the adjacent existing residences.

### Lighting

Streetlights and lighting from adjacent residential and commercial uses currently exist in the vicinity of the Project site. The Project proposes to install shielded exterior lighting fixtures per the approved lighting plan sufficient for campus safety and security. The Project will require indoor lighting for the proposed school during its operational hours from 7 am to 6 pm, Monday through Friday. A 2,625 SF solar roof zone is proposed along the southern portion of the proposed elementary school building, designed to absorb light.

### Green Project Components

The proposed building and mechanical design comply with the Cal Green standards. Shading overhangs have been added on second floor south facing windows to lower the air conditioning mechanical load during warm seasons. The Project would include 3 EVCS within the parking area to promote emissions reductions. To reduce the heat island effect, the proposed building has introduced a white cool roof, low albedo reflective paving, large canopy street trees, and exterior shade structures. The roof will also contain infrastructure for future photovoltaic panel installation. The landscape design has taken into consideration biodiversity and water conservation through low water use, native, climate adapted plants and efficient irrigation system with weather-based data.

### Required Approvals

Necessary Project entitlements will require approval from the County of Los Angeles. The applicant is seeking approval of the following entitlement requests:

- Conditional Use Permit (CUP-RPPL2019004082) to authorize development and construction of a new, two-story permanent school facility with an underground parking garage.
- Parking Permit #RPPL2020005800 to authorize tandem parking spaces within the school's subterranean garage for use by school employees.
- Ministerial Building Permits

## 1. AESTHETICS

| | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **Except as provided in Public Resources Code Section 21099, would the project:** | | | | |
| **a) Have a substantial adverse effect on a scenic vista?** | ☐ | ☐ | ☐ | ☒ |

The following aesthetics analysis is primarily based on the Landscaping Plan, prepared by Berliner Architects, dated July 31, 2020 and included as **Appendix A,** as well as the Lighting Plan, prepared by Berliner Architects, dated July 31, 2020 and included as **Appendix B.**

**No Impact.** The County General Plan Chapter 9, Conservation and Natural Resources Element, recognizes that scenic features in the region, such as the coastline and mountain vistas are significant natural resources for the County. A scenic vista is defined as a valued scenic view from a given location, such as a highway, a park, a hiking trail, river/waterway, or even from a particular neighborhood. The boundaries of a viewshed are defined by the field of view to the nearest ridgeline. Scenic viewsheds vary by location and community and can include ridgelines, unique rock outcroppings, waterfalls, ocean views or various other unusual or scenic landforms.[3] Valued views and scenic resources, such as scenic highways, were not identified in the Florence-Firestone Community Plan.

The Project site is infill development located within the urbanized visual setting of unincorporated Los Angeles. Surrounding properties consist of a variety of residential and light manufacturing uses. The Project site is not located within the vicinity of any designated or eligible scenic highways, or other designated County natural and scenic resources identified in the General Plan Chapter 9, Conservation and Natural Resources Element.[4] Therefore, the Project will have no impact in regard to substantial adverse effects on a scenic vista.

| | | | | |
|---|---|---|---|---|
| **b) Be visible from or obstruct views from a regional riding, hiking, or multi-use trail?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** As shown on the General Plan Figure 10.1, Regional Trail System, the nearest multi-use trail is located approximately 4.5 miles east of the Project site and runs parallel to the I-710 freeway. Construction of the two-story school building and associated facilities within the urban context will not be visible from any multi-use trails in the area. As such, the Project will have no impact in regard to obstructing trail views.

| | | | | |
|---|---|---|---|---|
| **c) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project site is not within the vicinity of a designated scenic highway.[5] The Project proposes to build and operate an elementary and middle school, parking lot, and playground/landscaped areas by removing the existing vacant asphalt parking lot. Removal of the existing asphalt parking lot will also include removal of non-native landscaping as well as invasive herbaceous species. The Project site is infill development surrounding by urban development, including residential and light manufacturing uses. As such, the Project will not substantially damage scenic resources, including within a state scenic highway, and the Project will have no impact regarding this issue.

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[3] Los Angeles County General Plan Chapter 9: Conservation and Natural Resources Element.

[4] Los Angeles County General Plan, Figure 9.8, Hillside Management Areas and Ridgeline Management Map, adopted October 6, 2015.

[5] Caltrans, California Scenic Highway Mapping System, Los Angeles County, Accessed on July 20, 2020 at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/od-county-scenic-hwys-2015-a11y.pdf .

**d) Substantially degrade the existing visual character or quality of public views of the site and its surroundings because of height, bulk, pattern, scale, character, or other features or conflict with applicable zoning and other regulations governing scenic quality? (Public views are those that are experienced from publicly accessible vantage point)**

☐ ☐ ☒ ☐

**Less Than Significant Impact.** The Project proposes to replace a vacant asphalt parking lot with a two-story elementary and middle school building, associated parking area, and an outdoor landscaping and playground areas on flat infill property. The existing asphalt parking lot is partially concealed by a cinder block wall with overgrown vegetation and a chain link fence and two chain link sliding gates are located on the eastern site boundary. The existing wall and fence and the sliding gates will be removed prior to construction. The proposed elementary school building will have a maximum height of two stories or 35 feet, inclusive of any roof-mounted equipment or parapets. Surrounding properties consist of one- and two-story single-family residences, multi-family residences, and light manufacturing uses. The proposed two-story school building was pulled back from the western property line to create a buffer and height transition between the two uses and ensure that the Project will not degrade the existing visual character of the area.

Proposed landscaping will screen the proposed parking lot oriented towards Maie Avenue to the east and the building along 82nd Street. A proposed eight-foot concrete masonry wall with flowering vines will screen the Project from existing residences along the western and northwestern perimeter. An eight-foot wrought iron fence will surround the proposed property adjacent the sidewalks. The perimeter and adjacent parkway will be landscaped with trees, shrubs, and turf. The northeastern playground area will be surfaced with artificial turf edged. The school building exterior facade will primarily include light and dark gray and orange painted plaster and orange standing seam metal panel accents.

The Project site will be adjacent to an existing two-story light manufacturing development along Maie Avenue. Additionally, the site will be adjacent to one- and two-story single and multi-family homes along 81st street, 82nd Street, and on the western site boundary. In addition, there is an existing three-story building located northwest of the Project site along Maie Avenue. As such, the proposed Project building will contain a similar height and character to the existing buildings within the site vicinity. The proposed Project will not be out of character in height and scale to the surrounding residential and light manufacturing uses within the immediate vicinity and will not degrade the visual character or quality of the site or surrounding urban uses. Consequently, the Project's impacts to visual character will be less than significant.

**e) Create a new source of substantial shadows, light, or glare which would adversely affect day or nighttime views in the area?**

☐ ☐ ☒ ☐

**Less Than Significant Impact.** Streetlights and lighting from adjacent residential and commercial uses currently exist in the vicinity of the Project site, as well as from the active uses that currently operate on the site. The Project proposes exterior lighting in the form of pole mounted luminaires adjacent to the northern and eastern driveway and wall mounted luminaires attached the building facade. The Project would require indoor lighting for the proposed school during its operational hours from 7 am to 6 pm, Monday through Friday.

While the Project proposed exterior lighting, the Project site is not located within a rural outdoor lighting district.[6] Light levels beyond the property line will range from 0.0 foot-candles to 1.0 foot-candles, with an average of 0.1 foot-candles.[7] At the nearest residential property, light from the Project will reach up to 1.0 foot-candles at a portion of the property but will be much lower on the majority of the property. At all other residences, light from the Project will be 0.0 foot-candles. Exterior surfaces of the proposed school building will be finished with light and dark gray painted plaster and orange standing seam metal panel accents and orange painted plaster that will not create reflective glare. A 2,625 SF solar roof zone is proposed along the southern portion of the proposed elementary school building, designed to absorb light rather than reflect it. Total building height including the parapet will not exceed the height limit of 35 feet, and will therefore not create a new source of substantial shadow given the height of the surroundings uses in comparison to the school building and the location of the school building. In addition, the proposed school building has been pulled back from the western property line and moved eastward towards the parking lot to create a buffer and height transition between the two uses and ensure that the Project will not degrade the existing visual character of the area. Consequently, the Project will not introduce a new source of substantial light or glare that will adversely affect day or nighttime views in the area, and impacts will be less than significant.

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[6] Los Angeles County Department of Regional Planning, Rural Outdoor Lighting District Map, accessed on July 20, 2020 http://planning.lacounty.gov/assets/upl/data/map_t07-rural_outdoor_lighting_district.pdf

[7] Design West, Photometric Calculations, August 3, 2019.

## 2. AGRICULTURE / FOREST

| **Would the project:** | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** According to the California Natural Resources Agency, Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, the Project site is not located within an area containing Prime Farmland, Unique Farmland, or other Farmland of Statewide Importance.[8] As such, the Project will have no impact regarding this issue.

| | | | | |
|---|---|---|---|---|
| **b) Conflict with existing zoning for agricultural use, with a designated Agricultural Resource Area, or with a Williamson Act contract?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project site is zoned R-3 for residential uses and is currently occupied by a vacant asphalt parking lot. The Project site and surrounding vicinity are not zoned for agricultural use and there is no farmland located at the Project site. The Project site is not located within Williamson Act Contract Land.[9] Therefore, the Project will not conflict with zoning for agricultural use, with a designated Agricultural Resource Area or with a Williamson Act contract, and the Project will have no impact.

| | | | | |
|---|---|---|---|---|
| **c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220 (g)), timberland (as defined in Public Resources Code § 4526), or timberland zoned Timberland Production (as defined in Government Code § 51104(g))?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** As stated above, the Project site is currently occupied by a vacant asphalt parking lot and does not include parcels zoned for forest land, timberland, or timberland production by the County Zoning Code. Therefore, the Project will have no impact related to forest land, timberland, or timberland production zoning and no mitigation measures are required.

| | | | | |
|---|---|---|---|---|
| **d) Result in the loss of forest land or conversion of forest land to non-forest use?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** As stated above, the Project site is currently occupied by a vacant asphalt parking lot. The site is not located within and does not contain designated forest land. Since the Project site will not result in the loss of forest land or convert designated forest land to non-forest use, it will have no impact related to these issues.

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[8] California Department of Conservation Division of Land Resource Protection Farmland Mapping and Monitoring Program, Los Angeles County Important Farmland 2016, Map published July 2017.

[9] California Department of Conservation, State of California Williamson Act Contract Land, 2017.

|  |  |  |  |  |
|---|---|---|---|---|
| **e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** There are no farmlands or timberlands on the site or in the vicinity. The Project will have no impact regarding changes in the environment that could result in conversion of farmland or forest land.

## 3. AIR QUALITY

| **Would the project:** | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Conflict with or obstruct implementation of applicable air quality plans of either the South Coast AQMD (SCAQMD) or the Antelope Valley AQMD (AVAQMD)?** | ☐ | ☐ | ☒ | ☐ |
| **b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?** | ☐ | ☒ | ☐ | ☐ |

**Less Than Significant Impact.** The Project site is located within the South Coast Air Basin (Basin), which is bounded by the Pacific Ocean to the south and west and mountains to the north and east. Air quality in the Basin is managed by the South Coast Air Quality Management District (SCAQMD). The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the Basin. On March 3, 2017, the SCAQMD approved the 2016 AQMP that includes the integrated strategies and measures needed to meet the National Ambient Air Quality Standards (NAAQS). The 2016 AQMP demonstrates attainment of the 1-hr and 8-hr ozone NAAQS as well as the latest 24-hr and annual 2.5-micron diameter particulate matter ($PM_{2.5}$) standards.[10]

The Project will be consistent with the General Plan land use designation for the site with approval of the requested CUP to operate a school within a residential (R-3) zone. The Project is anticipated to serve students primarily from the surrounding area, including students currently enrolled in the school's temporary facilities, and will not generate substantial unplanned growth in population in the region. As such, the Project will not exceed local and regional growth projections that are used in development of the AQMP. Additionally, as evaluated below, the Project's construction and operational daily maximum emission levels will not exceed SCAQMD significance thresholds and will be less than significant. Therefore, the Project will not conflict with or obstruct implementation of the applicable AQMP.

**Less Than Significant Impact with Mitigation Incorporated.** A Project-related air quality emissions analysis was performed using California Emissions Estimator Model (CalEEMod 2016.3.2), a model developed by the SCAQMD by which to calculate construction and operational emissions. The model calculates both the daily maximum and annual average emissions for criteria pollutants. Project CalEEMod output data is provided in **Appendix C-1**. The following analysis is based on a comparison of the Project's estimated emissions calculated by CalEEMod with SCAQMD Air Quality Significant Thresholds for construction and operations.

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[10] South Coast Air Quality Management District, AQMP, Accessed on October 9, 2020 at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan.

### Construction Impacts

During construction, the Project will generate air pollutant emissions associated with the use of heavy equipment on the site, off-site hauling of materials to and from the site, and worker transportation. The SCAQMD's Rule 403 governs fugitive dust emissions from construction projects. Fugitive dust can result in worker and public exposure to fungal spores such as Coccidioidesimmitis, which can cause Coccidiodidomycosis (Valley Fever).[11] Between 2008 and 2013 (the most recent available data for the County), the annual incidence of Valley Fever in Los Angeles County ranged from 1.9 (2009) to 3.3 (2013) cases per 100,000 persons, or 193 cases and 349 cases, respectively. In all years, the majority of reported cases were identified as occurring in the City of Los Angeles.[12] In California, the annual number of Valley Fever cases has been on the rise since 2000. It is believed that contributing factors may include changes in climate and rainfall patterns; construction activities that disturb soil; an increase in susceptible persons moving to endemic areas; and heightened awareness and diagnoses.[13] As requested by the County Department of Public Health, the Project Applicant would provide awareness training to workers on-site regarding Valley Fever. As such, the Project would implement mitigation measure (MM) **AQ-1** to provide construction and operations personnel training to understand and manage the risks associated with Valley Fever. In addition, Rule 403 sets forth a list of control measures that must be undertaken for all construction projects to reduce dust emissions. Rule 403 dust control measures that will be applicable to the Project during soil disturbance activities will include: (1) apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction, and (2) stabilize soils once earth-moving activities are complete. Additionally, track-out of soil and sediment from vehicle tires must be removed daily and not be allowed to extend on public roadways for 25 feet or more. Adherence to Rule 403 is mandatory.

The SCAQMD has also established thresholds for determining the significance of construction air quality impacts based on daily maximum emissions of criteria pollutants.[14] The construction emissions significance thresholds are:

- 75 pounds per day for reactive organic gases (ROG);
- 100 pounds per day for oxides of nitrogen (NOx);
- 550 pounds per day for carbon monoxide (CO);
- 150 pounds per day of oxides of sulfur (SOx);
- 150 pounds per day for respirable 10-micron diameter particulate matter ($PM_{10}$); and
- 55 pounds per day for respirable $PM_{2.5}$.

**Table 3-1, Construction Activity Maximum Daily Emissions,** summarizes the Project's maximum day emissions of criteria pollutants for construction activities estimated by CalEEMod. Based on the estimates shown in Table 3-1, all Project construction emissions will be far below their respective thresholds with compliance with regulatory requirements. However, the Project would implement AQ-1 to ensure worker awareness regarding Valley Fever, and therefore, the Project's construction period air quality impacts would be less than significant with mitigation incorporated.

**Table 3-1**
**Construction Activity Maximum Daily Emissions**

| **Project Component** | **Criteria Pollutant Emissions (lbs./day)[(a)(b)]** | | | | | |
|---|---|---|---|---|---|---|
| | **ROG** | **NOx** | **CO** | **$SO_2$** | **$PM_{10}$** | **$PM_{2.5}$** |
| **Maximum Day Emissions** | **7.4** | **26.8** | **20.5** | **0.1** | **4.3** | **1.2** |
| SCAQMD Thresholds | 75 | 100 | 550 | 150 | 150 | 55 |
| Exceeds Threshold? | No | No | No | No | No | No |
| Source: CalEEMod 2016.3.2 Output in Appendix C-1. | | | | | | |

Note: While there is a new version of CalEEMod, CalEEMod 2016.3.2 was the version in place at the time of the posting of the NOP. The analyses prepared under CalEEMod 2016.3.2 are generally more conservative than those prepared under CalEEMod 2020.4.0. The older model was based on CARB's EMFAC2014 emissions model, which did not capture more recent advanced clean car regulations adopted after 2015 and the accelerated phase-in of partial Zero Emission Vehicles. In addition, CalEEMod 2016.3.2 did not factor in California's 2019 Title 24 standards, which have more stringent energy standards that reduce energy-related emissions from electricity and natural gas use.

(a) Emissions estimates reflect mandatory compliance with SCAQMD regulations (Rule 403) for reducing construction dust emissions by watering exposed soils twice daily.
(b) Maximum estimated emissions for summer or winter seasons, whichever is greater.

### Operational Impacts

Long-term, or operational, emissions generally result from mobile emissions from vehicle traffic, as well as stationary source emissions such as building heating and electrical systems and landscape maintenance activities. Operational emissions from energy sources are also generated off-site for electrical generation to serve the Project.

Operational air quality impacts are considered significant if they exceed any of the following maximum daily emissions thresholds that have been established by SCAQMD[15]:

- 55 pounds per day for ROG;
- 55 pounds per day for NOx;
- 550 pounds per day for CO;
- 150 pounds per day of SOx;
- 150 pounds per day for $PM_{10}$; and
- 55 pounds per day for $PM_{2.5}$.

The Project's operational emissions of criteria pollutants are summarized in **Table 3-2, Operational Maximum Daily Emissions**. For a conservative analysis, the operational emissions estimations do not include "credit" for the elimination of emissions associated with discontinuing use of the school's temporary facilities, which will reduce the Project's actual net increase in regional emissions over existing conditions. As shown in Table 3-2, emissions of pollutants during operations will be far below the SCAQMD significance thresholds for operational daily emissions. Emissions based on the net difference in uses after discontinuing use of temporary school facilities will be even lower. Therefore, the Project's air quality impacts during operations will be less than significant.

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[11] County of Los Angeles, Department of Public Health, Comments on CEQA-Initial Study KIPP Ignite Academy School Project, Case RPPL2021000118, 1628 E 81st Street Los Angeles CA 90001, February 9, 2022.

[12] California Department of Public Health (CDPH). 2014 (May). What You Need to Know About Valley Fever in California. Sacramento, CA: CDPH. http://www.cdph.ca.gov/HealthInfo/discond/Documents/EnglishValleyFeverBrochure.pdf.

[13] Sondermeyer, G., L. Lee, D. Gilliss, and D.J. Vugia. 2013 (Spring). Increases in Valley Fever in California. Medical Board of California Newsletter. 126: 13–14. Sacramento, CA: Medical Board of California. http://www.mbc.ca.gov/publications/newsletters/ newsletter_2013_ 04.pdf#page=13.

[14] South Coast Air Quality Management District, SCAQMD Air Quality Significant Thresholds, April Revision 2019.

[15] South Coast Air Quality Management District, SCAQMD Air Quality Significant Thresholds, April Revision 2019

### Table 3-2
### Operational Maximum Daily Emissions

| Source | Maximum Operational Emissions (lbs./day) [(a)] | | | | | |
|---|---|---|---|---|---|---|
| | **ROG** | **NOx** | **CO** | **$SO_2$** | **$PM_{10}$** | **$PM_{2.5}$** |
| Area | 0.77 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Energy | 0.01 | 0.10 | 0.08 | <0.01 | <0.01 | <0.01 |
| Mobile | 2.16 | 10.59 | 29.46 | 0.11 | 8.82 | 2.42 |
| **Total** | **2.94** | **10.68** | **29.55** | **0.11** | **8.82** | **2.42** |
| SCAQMD Thresholds | 55 | 55 | 550 | 150 | 150 | 55 |
| Exceeds Threshold? | No | No | No | No | No | No |

Source: CalEEMod 2016.3.2 Output in Appendix C-1.
Totals may differ due to rounding.
(a) Maximum estimated emissions for summer or winter seasons, whichever is greater.

**Mitigation Measure:**

**AQ-1** As shown in the Los Angeles County, Department of Public Health, Coccidioidomycosis (Valley Fever) Management Plan: Guideline for Employers, the Project will provide construction and operations personnel training to understand and manage the risks associated with Valley Fever prior to initiation of construction activities. Training will include information on how to recognize the symptoms of Valley Fever and way to minimize exposure, proper cleaning procedures to minimize accidental exposure, and demonstrations on how to use personal protective equipment, such as respiratory protection and skin and eye protection.

**c) Expose sensitive receptors to substantial pollutant concentrations?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** A significant impact may occur if a project were to generate pollutant concentrations to a degree that will significantly affect sensitive receptors. Sensitive receptors are defined as populations or land uses where people are housed or spend long periods of time that are generally more susceptible to the effects of air pollution than the population at large. Land uses considered to be sensitive receptors include residences, long-term care facilities, schools, playgrounds, parks, hospitals, and outdoor athletic facilities.

### Local Significance Thresholds Impacts

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to the SCAQMD Governing Board's Environmental Justice Enhancement Initiative I-4, and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.[16] LSTs are only applicable to the following criteria pollutants: $NO_X$, CO, PM-10, and PM-2.5. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standard, and they are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

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[16] South Coast Air Quality Management District, Localized Significance Thresholds, Accessed on October 23, 2020 at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds#appc.

For the proposed Project, the primary source of possible LST impact will be construction activity, based on the maximum onsite daily emissions estimated by CalEEMod. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours, such as a residence, hospital, or convalescent facility.

SCAQMD's LST screening tables provide thresholds for 25, 50, 100, 200 and 500-meter source-receptor distances. The closest off-site sensitive receptors that could potentially be subject to localized air quality impacts associated with construction of the proposed Project will be an existing residence located adjacent to the site. Pursuant to SCAQMD LST Methodology for projects with boundaries located closer than 25 meters to the nearest receptor, LST screening levels for a 25-meter source-receptor distance were considered for this Project.[17] LST pollutant screening level concentration data is currently published for 1, 2 and 5-acre sites. For this Project, thresholds for a 1-acre site were used. This evaluation is based on estimated onsite daily construction emissions for the phase and year representing the highest daily emissions. Daily averages will be lower than the reported maximum amounts. Project-related emissions generated offsite, such as truck hauling of materials to or from the site, are not evaluated for local impacts, as LST screening levels are based on proximity a project site to a sensitive receptor.

**Table 3-3, Local Significance Thresholds,** presents the applicable LST screening levels used for this evaluation, and summarizes the Project's maximum day onsite emissions levels for construction activities as estimated by CalEEMod. A comparison of the Project's maximum day onsite construction emissions with the LST screening criteria shown in Table 3-3, indicates that the Project's emissions due to construction activities will not exceed screening criteria for LST impacts, and impacts will be less than significant.

**Table 3-3**
**Local Significance Thresholds**

| **LST 1.0 acre/25 meters South Central Los Angeles County** | **Max. Onsite Construction Emissions [(a)(b)] (lbs./day)** | | | |
|---|---|---|---|---|
| | **$NO_X$** | **CO** | **$PM_{10}$** | **$PM_{2.5}$** |
| **Maximum Day Onsite Emissions** | **17.7** | **19.4** | **3.9** | **0.9** |
| LST Threshold | 46 | 231 | 4 | 3 |
| Exceeds Threshold? | No | No | No | No |

Source: CalEEMod 2016.3.2 Output in Appendix C-1.
[(a)] Emissions estimates based on required dust emissions by watering exposed soils twice daily.
[(b)] Maximum estimated emissions for summer or winter seasons, whichever is greater.

**d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** A significant impact may occur if objectionable odors will be emitted from the Project site and may impact sensitive receptors. Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling materials used in manufacturing processes, as well as some sewage treatment facilities and landfills.

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[17] South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, Revised July 2008. Accessed on October 9, 2020 at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2.

During the construction phase, activities associated with the application of architectural coatings and other interior and exterior finishes, paving, or other construction activities may produce discernible odors typical of most construction sites. Such odors will be temporary and limited to the duration of each construction phase. As such, potential odor impacts from temporary construction will be less than significant.

SCAQMD Rule 402, Nuisance, states that "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals."[18] The Project will include solid waste and recyclable storage/collection areas, with regularly scheduled waste removal service. Operations of the proposed school facility are not anticipated to generate strong odors affecting other nearby properties. Good housekeeping practices will be sufficient to prevent nuisance odors associated with school operations, and the potential to result in objectionable odors affecting a substantial number of persons will be less than significant.

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[18] South Coast Air Quality Management District. Rule 402, Nuisance. Accessed on October 9, 2020 at: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf.

## 4. BIOLOGICAL RESOURCES

| **Would the project:** | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project site is currently developed with an asphalt parking lot and non-native vegetation. Natural habitats will not be affected by construction activities and no impacts on federally or state-listed species will occur. According to the California Natural Diversity Database (CNDDB), a historical record exists, which concludes that the Least Bell's Vireo (*Vireo belli pusillus*) was estimated to have been located within about a mile of the site. However, this record relates to a historical observation made in 1895, and the current condition of the fully urbanized site and surrounding area is unsuitable habitat for this species. Impacts on developed, urban landscapes will be limited to the currently developed areas and the removal of potential non-native vegetation located on-site.

| | | | | |
|---|---|---|---|---|
| **b) Have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations or by CDFW or USFWS?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Conservation and Natural Resources Element of the General Plan identifies the biological resources and important habitat areas in the unincorporated areas of Los Angeles County. The Element identifies Significant Ecological Area (SEAs) within the County which designate land that contains irreplaceable biological resources. Within the SEA areas, the Element establishes policies to conserve genetic and physical diversity by designating biological resource areas that are capable of sustaining themselves into the future. The Project site is not located within any County designated SEA.[19]

The Project site and surrounding properties are located within a previously developed and urbanized area, and the Project site does not include any natural communities such as riparian habitat, coastal sage scrub, oak woodlands, or wetlands. The Project site is occupied by a vacant asphalt parking lot and the vegetation on the site consists of non-native landscaping as well as invasive herbaceous species. The Project site is surrounded by existing urban development. Therefore, the Project will have no impact on sensitive natural communities.

| | | | | |
|---|---|---|---|---|
| **c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States or California,** | ☐ | ☐ | ☐ | ☒ |

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[19] Los Angeles County Department of Regional Planning, General Plan 2035, Figure 9.3, Significant Ecological Areas and Coastal Resource Areas Policy Map, February 2015.

**as defined by § 404 of the federal Clean Water Act or California Fish & Game code § 1600, et seq. through direct removal, filling, hydrological interruption, or other means?**

**No Impact.** According to the USFWS National Wetlands Mapper,[20] no natural wetlands are located within the Project site. The Los Angeles River is located approximately 4.2 miles east of the Project site and the Compton Creek is located approximately 3 miles south of the Project site. Both waterbodies are contained within concrete channels. Therefore, the Project will not cause a substantial adverse effect on federally protected wetlands.

**d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?** ☐ ☒ ☐ ☐

**Less Than Significant Impact with Mitigation Incorporated.** The Project site is currently occupied by a vacant asphalt parking lot, surrounded by urban land uses and does not contain riparian or sensitive habitats or wetlands. A wildlife corridor contains physical connections that allow wildlife to move between areas of suitable habitat in both undisturbed landscapes or landscapes fragmented by urban development. An existing chain-link fence surrounds the site, and as such, the site does not represent a wildlife corridor. As the existing vegetation on the site consists of non-native landscaping as well as invasive herbaceous species and the site is surrounded by existing development, the site does not provide suitable habitat for native resident species or migratory wildlife. The urbanized Project site is not within an area identified as important to wildlife movement, such as a regional-scale habitat linkage or a wildlife movement corridor.[21]

In addition, common wildlife, particularly birds, may be exposed to temporary noise and other disturbance during construction, but these activities are typical of urban environments and these species are acclimated to these types of disturbance. Populations of common bird species, including migratory birds, are typically stable, and the loss of individuals will not substantially affect the species' population. Additionally, species of bats considered to be special concern are regulated through the CEQA and California Fish and Game Code, section 4150.

The Project will result in the removal of vegetation and disturbances to the ground and therefore may result in take of nesting native bird species. Migratory non-game native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Ground and vegetation disturbing activities if conducted during the nesting bird season (February 1 to August 31) will have the potential to result in removal or disturbance to trees and shrubs that could contain active bird nests. In addition to vegetation removal activities, which could directly impact nesting birds, other construction activities may cause noise, dust, or other impacts which could disturb nearby nesting birds and result in nesting failure and the loss of eggs or nestlings. Therefore, implementation of mitigation measure **(MM) BIO-1,** requiring nesting bird surveys if construction activities cannot feasibly avoid the breeding bird season, will reduce potentially significant impacts to less than significant.

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[20] National Wetlands Inventory, Surface Waters and Wetlands, Accessed on June 26, 2020 at: https://www.fws.gov/wetlands/data/mapper.HTML.

[21] County of Los Angeles, Department of Regional Planning, General Plan 2035, Figure 9.2, Regional Habitat Linkages, Adopted October 6, 2015.

**Mitigation Measure:**

**BIO-1** **Pre-Construction Nesting Bird Surveys**

Project construction will result in the removal of vegetation and disturbances to the ground and therefore may result in take of nesting native bird species. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory non-game birds (as listed under the Federal MBTA).

- Project construction activities (including disturbances to native and non-native vegetation, structures and substrates) should take place outside of the breeding bird season which generally runs from March 1- August 31 (as early as February 1 for raptors) to avoid take (including disturbances which will cause abandonment of active nests containing eggs and/or young). Take means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (Fish and Game Code Section 86).
- If construction activities cannot feasibly avoid the breeding bird season, beginning thirty days prior to the disturbance of suitable nesting habitat, the applicant shall:
  a. Arrange for weekly bird surveys to detect any protected native birds in the habitat to be removed and any other such habitat within properties adjacent to the Project site, as access to adjacent areas allows. The surveys shall be conducted by a qualified biologist with experience in conducting breeding bird surveys. The surveys shall continue on a weekly basis with the last survey being conducted no more than 3 days prior to the initiation of clearance/construction work.
  b. If a protected native bird is found, the applicant shall delay all clearance/construction disturbance activities within 300 feet of suitable nesting habitat for the observed protected bird species until August 31.
  c. Alternatively, the Qualified Biologist could continue the surveys to locate any nests. If an active nest is located, clearing and construction within 300 feet of the nest or as determined by a qualified biological monitor, shall be postponed until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting. The buffer zone from the nest shall be established in the field with flagging and stakes. Construction personnel shall be instructed on the sensitivity of the area.
  d. The applicant shall record the results of the recommended protective measures described above to document compliance with applicable State and Federal laws pertaining to the protection of native birds. Such record shall be submitted and received into the case file for the associated discretionary action permitting the Project.

**e) Convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10% canopy cover with oaks at least 5 inch in diameter measured at 4.5 feet above mean natural grade) or other unique native woodlands (juniper, Joshua, southern California black walnut, etc.)?** ☐ ☐ ☐ ☒

**No Impact.** The Project site is located within an urbanized area. The majority of the site is occupied by a developed vacant asphalt parking lot. Vegetation within the Project site consists of non-native landscaping and invasive herbaceous species and does not contain oak woodlands. Therefore, the Project will have no impact regarding conversion of oak woodlands, or other unique native tree woodlands.

| | | | | |
|---|---|---|---|---|
| **f) Conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.174), the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, Ch. 102), and Sensitive Environmental Resource Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44)?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project site is located within an urbanized area and surrounded by urban land uses. There are no County policies protecting biological resources applicable to the Project site. Consequently, the Project will not conflict with local policies protecting biological resources.

| | | | | |
|---|---|---|---|---|
| **g) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved state, regional, or local habitat conservation plan?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project site is not within a designated SEA, as stated above. The site is urbanized and surrounded by urban land uses. The Project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or State habitat conservation plan. Consequently, the Project will not conflict with a habitat conservation plan.

## 5. CULTURAL RESOURCES

| **Would the project:** | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines § 15064.5?** | ☐ | ☒ | ☐ | ☐ |

The following cultural resources analysis is primarily based on the Phase I Cultural Resources Report (Phase I Report), prepared by Envicom Corporation, dated April 10, 2019 and revised December 7, 2020, and included as **Appendix D**.

**Less Than Significant Impact with Mitigation Incorporated.** The Phase I Report examined historic maps of the Project area dating back to 1896. Development within the area is shown in the 1896 map with development on the Project property first seen in the 1937 Watts United States Geologic Survey (USGS) Map. The Phase I Report determined that development on the block containing the Project property was first developed between 1923 and 1927. An aerial photograph in 1952 shows that the structures on the Project property used to store semi-truck trailers. Satellite images from 2003 and 20017 show the Project as truck storage and construction material storage, respectively. As the Project property contained historic cultural resources built around 1937, with extensive local development that dated back to the 1920s, the Project property is considered sensitive for older historic cultural resources. Implementation of MM **CUL-1** will reduce this potentially significant impact by requiring archaeological monitoring during ground disturbance until older alluvium or bedrock are encountered. Modern fill does not require monitoring.

If a resource is found, construction will not resume in the locality of the discovery until consultation between the senior archaeologist, the Project manager, the Lead Agency, and all other concerned parties, takes place and reaches a conclusion approved by the Lead Agency. If a significant cultural resource is discovered during earth-moving, complete avoidance of the find is preferred. However, further survey work, evaluation tasks, or data recovery of the significant resource may be required if the resource cannot be avoided. Any individual reports, including the final Project Monitoring Report, will be submitted to the South Central Coastal Information Center (SCCIC) at the conclusion of the Project. Therefore, the Project will have a less than significant impact to historical resources with mitigation incorporated.

**Mitigation Measure:**

**CUL-1** An archaeological monitor that meets the Secretary of Interior qualifications will be on site during Project ground disturbance until older alluvium or bedrock are encountered. Modern fill does not require monitoring. The archaeological monitor will collect any older historic material that is uncovered through grading and can halt construction within 50-feet of a potentially significant cultural resource, if necessary. Artifacts collected from a disturbed context or that do not warrant additional assessment can be collected without the need to halt grading. A final Project Monitoring Report will be produced that discusses all monitoring activities and all artifacts recovered through monitoring.

If potentially significant intact deposits are encountered that are within an undisturbed context, then a cultural resource "discovery" protocol will be followed. If buried materials of potential-archaeological significance are accidentally discovered within an undisturbed context during any earth-moving operation associated with the proposed Project, then all work in that area shall be halted or diverted away from the discovery to a distance of 50-feet until a qualified senior archaeologist can evaluate the nature and/or significance of the find(s).

| | | | | |
|---|---|---|---|---|
| **b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Cultural Resources Phase I report included a cultural resource record search conducted by the SCCIC and a Native American cultural resource record search conducted by the California Native American Heritage Commission (NAHC). Both searches examined the Project site plus a 0.25-mile study area. The SCCIC request results identified no previously identified cultural resources within the Project property with two cultural resources located within the 0.25 mile study area. Neither identified cultural resource adjacent to the Project property nor warrant further assessment.

There were three cultural resource reports that involved the entire Project property, but none warranted additional study, further testing, or construction monitoring for the proposed Project. Four additional cultural resource reports were in the surrounding study area, with none warranting further consideration. The NAHC record search results returned negative findings.

Envicom Corporation staff also conducted a field survey of the Project property. No early historic or prehistoric artifacts or features were observed on the ground. The entire property is paved and no open areas where the ground was visible. The pedestrian survey resulted in negative findings for cultural resources on the Project property surface.

As the SCCIC and NAHC results and the pedestrian survey did not identify any cultural resources of concern, the Project site was determined to be not sensitive for older historic nor for prehistoric cultural resources. Therefore, the Project will have a less than significant impact to causing a substantial adverse change in the significance of an archaeological resource.

| | | | | |
|---|---|---|---|---|
| **c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Phase I Report determined that USGS maps for the Project property indicate that the entire region is comprised of recent alluvial material, which is not considered sensitive for paleontological fossil resources, and further assessment or monitoring is not required. Therefore, the Project will have a less than significant impact to directly or indirectly destroying a unique paleontological resource or site or unique geologic feature.

| | | | | |
|---|---|---|---|---|
| **d) Disturb any human remains, including those interred outside of dedicated cemeteries?** | ☐ | ☒ | ☐ | ☐ |

**Less Than Significant with Mitigation Incorporated.** The Phase I Report determined that cultural resources were unlikely to be found on the Project site as there was nothing of significance found in the SCCIC record search, NAHC record search, or the pedestrian survey. The historical map and image database search determined that there were historic buildings located on the Project site and within the Project area. While the finding of human remains is not expected, the Project was previously developed, and discovery of human remains is always a possibility during ground disturbance. Thus, implementation of MM **CUL-2** will reduce impacts related to the inadvertent discovery of human remains. Therefore, the Project will have a less than significant impact with mitigation incorporated to disturb human remains.

**Mitigation Measure:**

**CUL-2** The inadvertent discovery of human remains is always a possibility during ground disturbances; State of California Health and Safety Code Section 7050.5 addresses these findings. This code section states that in the event human remains are uncovered, no further disturbance shall occur until the County Coroner has made a determination as to the origin and disposition of the remains pursuant to PRC Section 5097.98. The Coroner must be notified of the find immediately, together with the City and the property owner.

If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials and an appropriate re-internment site. The Lead Agency and a qualified archaeologist shall also establish additional appropriate mitigation measures for further site development, which may include additional archaeological and Native American monitoring or subsurface testing.

## 6. ENERGY

| Would the project: | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.**

**Construction**

During construction, the Project will use heavy-duty equipment associated with demolition, site preparation, grading, paving, architectural coating and building construction. Construction equipment used on the site will include excavators, graders, dozers, scrapers, air compressors, cranes, forklifts, generators, welders, rollers, pavers, and tractors equipped with front end loaders and backhoes, the majority of which will be diesel-fueled. Construction also involves off-site vehicle use for delivery of construction materials, as well as for construction worker transportation.

The California Code of Regulations (CCR) requires drivers of diesel-fueled commercial motor vehicles with gross vehicle weight ratings greater than 10,000 pounds not to idle the vehicle's primary diesel engine longer than five minutes at any location.[22] Compliance with this regulation will reduce the potential for inefficient use of, or unnecessary consumption of energy from diesel fuel.

According to carbon dioxide ($CO_2$) emission factors for transportation fuels published by the U.S. Energy Information Administration,[23] burning one gallon of diesel fuel generates approximately 22.4 pounds of $CO_2$ and burning one gallon of petroleum-based gasoline produces approximately 19.6 pounds of $CO_2$. Based on these emissions factors and the Project's total construction-related CO2 emissions, Project consumption of diesel and petroleum-based gasoline during construction was calculated and shown in **Table 6-1, Total Fuel Consumption During Project Construction**. The calculations are shown in the Construction Fuel Consumption Worksheet provided in **Appendix C-2.**

### Table 6-1
### Total Fuel Consumption During Project Construction

| Energy Type | Total MT CO2 | Total CO2 pounds [a] | CO2 emission factors | Total Gallons Consumed |
|---|---|---|---|---|
| **Total Diesel** | 452.66 | 997,945 | 22.4 | **44,551** |
| **Total Gasoline** | 28.14 | 62,038 | 19.6 | **3,165** |

Source: CalEEMod Outputs, KIPP LA Ignite Academy Project. Fuel Consumption by Construction Phase Worksheet, Appendix C-2.
[a] 1 MT = 2,204.62 lbs. (approx.)

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[22] California Code of Regulations, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.

[23] Ibid.

As shown in Table 6-1, based on the U.S. Energy Information Administration fuel consumption factors, and the Project's estimated total $CO_2$ emissions presented in the CalEEMod output sheets, it is estimated that the Project's construction activities will consume a total of approximately 44,551 gallons of diesel fuel and approximately 3,165 gallons of gasoline. In 2017, 15.6 billion gallons of gasoline were sold in California,[24] and 3.8 billion gallons of diesel, including off-road diesel, was sold in California. As such, the use of construction equipment, transportation of materials, and workers necessary for Project construction will not represent a substantial proportion of annual gasoline or diesel fuel use in California.

Adherence to CCR Section 2485 and California Air Resources Board anti-idling regulations for off-road diesel-fueled fleets will reduce the potential for wasteful use of energy by construction equipment. Due to the temporary duration of construction, and the necessity of fuel consumption inherent in construction projects, fuel consumption will not be excessive or substantial with respect to fuel supplies. The energy demands associated with fuel consumption during construction will be typical of projects of this size and will not necessitate additional energy facilities or distribution infrastructure or cause wasteful, inefficient or unnecessary consumption of energy. Therefore, Project construction will not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, impacts will be less than significant.

### Operations

The proposed Project will be provided electricity by Southern California Edison (SCE). As estimated by CalEEMod, the proposed Project's total electricity demand will be approximately 326,280 kWh/year. SCE provides electricity service to more than 15 million people in a 50,000 square-mile area of central, coastal and Southern California.[25] In 2019, SCE provided approximately 80,913 millions of kWh of electricity throughout the service area.[26] The Project's total electricity demand will represent approximately 0.0004 percent of the electricity supplied by SCE in 2019, which will be a negligible portion of overall supplies provided by SCE.

The proposed Project will be provided natural gas by the Southern California Gas Company (SoCalGas). As estimated by CalEEMod, the proposed Project's total gas demand will be approximately 354,058 kBTU/year. In 2019, SoCalGas provided approximately 542,341 million kBTU throughout the service area.[27] The Project's total natural gas demand will represent approximately 0.00007 percent of the natural gas supplied by SoCalGas in 2019, which will be a negligible portion of overall supplies provided by SoCalGas.

The Project will be reviewed for compliance with Title 31, the Los Angeles County Green Building Standards Code and other applicable regulations related to energy efficiency through the building plan check process to prior to the issuance of a grading or building permit. Project design features such as the 103 short and long term bicycle parking spots for active transportation, a 2,625 SF solar roof zone designed to provide energy efficiency, and electric vehicle charging stations to reduce overall emissions will ensure the Project will not result in a wasteful, inefficient or unnecessary consumption of energy resources. Therefore, compliance with Title 31 and Project design features will reduce energy impacts to less than significant.

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[24] California Energy Commission, California Gasoline Data, Facts, and Statistics, Accessed on July 22, 2020 at: https://ww2.energy.ca.gov/almanac/transportation data/gasoline/.

[25] Southern California Edison, Our Service Territory, Accessed on July 22, 2020 at: https://www.sce.com/about-us/who-we-are/leadership/our-service-territory.

[26] California Energy Commission, Electricity Consumption By Entity, Accessed on October 9, 2020 at http://www.ecdms.energy.ca.gov/elecbyutil.aspx.

[27] California Energy Commission, Gas Consumption By Entity, Accessed on October 9, 2020 at http://www.ecdms.energy.ca.gov/gasbyutil.aspx.

|  |  |  |  |  |
|---|---|---|---|---|
| **b) Conflict with or obstruct a state or local plan for renewal energy or energy efficiency?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project will be subject to applicable Los Angeles County and State of California Building Codes, including consistency with applicable California Code of Regulations Title 24 Parts 6 and 11, for Building Efficiency Standards and the Green Building Standards Code, respectively, which establish planning and design standards for sustainable site development, energy efficiency, water conservation, and material conservation. As the Project will be required to be built to the energy efficiency codes in effect at the time of construction, the Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no impact will occur.

## 7. GEOLOGY AND SOILS

| | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **Would the project:** | | | | |
| **a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:** | | | | |
| **i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known active fault trace? Refer to Division of Mines and Geology Special Publication 42.** | ☐ | ☐ | ☒ | ☐ |

The following geology and soils analysis is primarily based on the Geotechnical Engineering Investigation prepared by Geotechnologies Inc., dated July 29, 2020 and included as **Appendix E-1**. A previous report was also prepared entitled Geotechnical Evaluation Report, prepared by Twining Inc., dated November 15, 2018, and included as **Appendix E-2.** The Response to County of Los Angeles Department of Public Works Geologic and Soils Engineering Review Sheet, prepared by Geotechnologies, Inc., and dated July 19, 2021, is included as **Appendix E-3.**

**Less Than Significant Impact.** Surface rupture is defined as displacement that occurs along the surface trace of the causative fault during an earthquake. As reported by the 2020 Geotechnical Engineering Investigation for the Site, the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. The nearest active fault is Puente Hills fault, located approximately 1-mile northeast of the site. Based on these considerations, the potential for surface ground rupture at the subject site is considered low. The Project will not exacerbate or increase the risk of rupture of a known earthquake fault, and therefore, potential impacts will be less than significant.

| | | | | |
|---|---|---|---|---|
| **ii) Strong seismic ground shaking?** | ☐ | ☒ | ☐ | ☐ |

**Less Than Significant Impact with Mitigation Incorporated.** According to the Project's 2020 Geotechnical Engineering Investigation, as the site is located in a seismically active area, as is the majority of southern California, the potential for strong ground motion in the area is considered high during the design life of the proposed improvements. The hazards from strong ground shaking are common in southern California and can be reduced if the proposed structures are designed and constructed in conformance with current building codes and engineering practices. Compliance with the County Division of Building and Safety plan check process and implementation of **MM GEO-1** will ensure the Project implements the recommendations provided in the 2020 Geotechnical Engineering Investigation, reducing potential seismic ground shaking impacts to less than significant.

**Mitigation Measures:**

**GEO-1** Prior to the issuance of a grading or building permit, the Project Applicant shall incorporate the recommendations provided in the Geotechnical Engineering Investigation dated July 29, 2020 prepared by Geotechnologies, Inc., and the Response to County of Los Angeles

Department of Public Works Geologic and Soils Engineering Review Sheet, prepared by Geotechnologies, Inc., and dated July 19, 2021 into final Project plans to the satisfaction of the County of Los Angeles Department of Building and Safety.

**iii) Seismic-related ground failure, including liquefaction and lateral spreading?** ☐ ☒ ☐ ☐

**Less Than Significant Impact With Mitigation Incorporated.** Liquefaction occurs when the pore pressures generated within a soil mass approach the effective overburden pressure. Liquefaction of soils may be caused by cyclic loading such as that imposed by ground shaking during earthquakes. The increase in pore pressure results in a loss of strength, and the soil then can undergo both horizontal and vertical movements, depending on the site conditions. Other phenomena associated with soil liquefaction include sand boils, ground oscillation, and loss of foundation bearing capacity.

The Project site is located within a state-designated Zone of Required Investigation for Liquefaction.[28]As reported in the Project's 2020 Geotechnical Engineering Investigation, a site-specific liquefaction analysis was performed utilizing a Standard Penetration Test data and laboratory testing of soil samples collected from exploratory borings, where the potential for liquefaction was evaluated using a site modified peak ground acceleration (PGA$_M$) corresponding to a Maximum Considered Earthquake. Based on the liquefaction analysis, the potential liquefiable soil layers were identified intermittently at depths ranging from 15 to 58 feet below the existing grade. The granular fill soils and alluvial sediments are subject to liquefaction during the design level ground motion, with estimated total settlement between 1.02 to 1.65 inches. The cumulative seismically induced settlement of saturated and unsaturated soils would be approximately 1.99 inches. The differential seismic settlement to be used in foundation design should be up to two-thirds of the maximum total settlement, and the differential settlement is estimated to be approximately 1.1 inches over a horizontal distance of 30 feet across the recommended mat foundation.[29] Based on the result of the SPT and CPT liquefaction analyses, the majority of the liquefiable zones occur between 15 and 40 feet below the existing site grade, with a few deeper thin layers indicated by the CPT soundings.

As such, the 2020 Geotechnical Engineering Investigation recommends the proposed structure be supported on a dense compacted fill, which should serve to mitigate any surface manifestation effects. In addition, given the Project's location in a seismically active area, the Project will be reviewed through the County's Division of Building & Safety plan check process to ensure Project compliance with applicable building code requirements. The Project plans will also be required to follow recommendations within the 2020 Geotechnical Engineering Investigation with implementation of **MM GEO-1.** Therefore, impacts to seismic-related ground failure will be less than significant with mitigation.

**iv) Landslides?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** The Project site is not located within an area designated by the State of California as a Zone of Required Investigation for Earthquake-Induced Landslides[30] and the Project site as well as the surrounding vicinity is relatively flat. Due to the lack of elevation difference across the site, the potential for earthquake induced landslides to occur at the site is low, and therefore, potential landslide impacts will be less than significant.

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[28] California Geologic Survey, Earthquake Zones of Required Investigation, Accessed on July 30, 2020 at: https://maps.conservation.ca.gov/cgs/EQZApp/app/.

[29] Geotechnologies, Inc., Response to County of Los Angeles Department of Public Works Geologic and Soils Engineering Review Sheet, July 19, 2021. Included in Appendix E-3.

[30] California Geologic Survey, Earthquake Zones of Required Investigation, Accessed on July 30, 2020 at: https://maps.conservation.ca.gov/cgs/EQZApp/app/.

| | | | | |
|---|---|---|---|---|
| **b) Result in substantial soil erosion or the loss of topsoil?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Project site is relatively flat and already developed with a paved asphalt parking lot. During construction, temporary soil erosion of exposed soils could occur during rain events. During construction, the Project will be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) as required by State Water Resources Control Board. A SWPPP will identify applicable best management practices (BMPs) such as sandbags and silt fences to minimize potential erosion or sedimentation impacts. To address potential erosion impacts during operations, the Project designs include a Low Impact Development Plan (LID), where surface runoff will drain to proposed catch basins located on the Project site and will be retained by the project -specific infiltration system, which will collect, store and percolate the storm water into the underlying soils. Any overflow from the infiltration system will discharge to 82nd Street through a proposed parkway drain. As a majority of the runoff will infiltrate into the soil, the Project will not substantially increase soil erosion. Therefore, erosion impacts will be less than significant.

| | | | | |
|---|---|---|---|---|
| **c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?** | ☐ | ☒ | ☐ | ☐ |

**Less Than Significant Impact with Mitigation Incorporated.** The materials encountered during the exploratory excavation consisted of fill and native alluvial soil. Fill materials were encountered within the exploratory borings to a depth of 3 feet below the existing grade consisting of silty sand which are dark to grayish brown in color, moist, medium dense and fine grained. The fill is underlain by native alluvial soils consisting of sandy silts and silty sands to sands with occasional clay layers intermixed. The alluvium ranges from dark to yellowish to grayish brown and gray in color, moist, medium dense to dense, and fine grained. The native alluvial soils consist predominantly of sediments deposited by river and stream action typical to this area of Los Angeles County.

Lateral spreading is the most pervasive type of liquefaction-induced ground failure. During lateral spread, blocks of mostly intact, surficial soil displace downslope or towards a free face along a shear zone that has formed within the liquefied sediment. Based on the 2020 Geotechnical Engineering Investigation, due to the level topography within and adjacent to the site, the potential for lateral spreading is considered to be unlikely. Prior to development, the Project will be required to incorporate MM GEO-1, which will provide a geotechnical study for review and approval by the County, and to comply with the requirements of the approved geotechnical report including final recommendations for removal and recompaction of the fill and alluvial materials. Therefore, with incorporation of MM GEO-1, the Project's potential impacts regarding unstable soil will be less than significant.

| | | | | |
|---|---|---|---|---|
| **d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?** | ☐ | ☒ | ☐ | ☐ |

**Less Than Significant Impact with Mitigation Incorporated.** Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from rainfall, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors, and may cause unacceptable settlement or heave of structures, concrete slabs supported on-grade, or pavements supported over these materials. Depending on the extent and location below finished subgrade, these soils could have a detrimental effect on the proposed construction. As stated in the 2020 Geotechnical Engineering Investigation, the onsite geologic materials are in the very low expansion range. The Expansion Index was found to be 17 for bulk samples remolded to 90 percent of the laboratory maximum density. Recommended reinforcing as provided in the 2020 Geotechnical Engineering Investigation (and required through MM GEO-1). As such, the proposed development will not affect the stability of the site and therefore impacts related to expansive soils will be less than significant.

| | | | | |
|---|---|---|---|---|
| **e) Have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project does not propose to use septic tanks or other onsite wastewater treatment systems. The Project will install a 6-inch SDR25 sanitary sewer pipe with push on-joints that will discharge to existing County sewer lines. Therefore, the Project will have no impact regarding soil suitability for wastewater disposal.

| | | | | |
|---|---|---|---|---|
| **f) Conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, Ch. 22.104)?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project site is not within a designated Hillside Management Area or located within a hillside area. Therefore, the Project will have no impact regarding conflicts with the Hillside Management Area Ordinance.

## 8. GREENHOUSE GAS EMISSIONS

| **Would the project:** | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Generate greenhouse gas (GHGs) emissions, either directly or indirectly, that may have a significant impact on the environment?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** Greenhouse gases (GHG), role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as global warming. These greenhouse gases contribute to an increase in the temperature of the earth's atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal GHGs are $CO_2$, methane (CH4), nitrous oxide ($N_2O$), ozone, and water vapor. The CEQA Guidelines defines the following as GHGs: ($CO_2$), CH4, $N_2O$, sulfur hexafluoride, perfluorocarbons, and hydrofluorocarbons.

Fossil fuel use in the transportation sector (on-road motor vehicles, off-highway mobile sources and aircraft) is the single largest source of GHG emissions, accounting for half of all emissions globally. Energy use associated with industrial and commercial land uses contribute approximately one quarter of global GHG emissions.

State Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, established broad and wide-ranging mandatory provisions and dramatic GHG reduction targets within specified time frames, including a requirement that California's GHG emissions be reduced to 1990 levels by 2020. State Senate Bill (SB) 97 required the CEQA Guidelines be updated to include guidance for evaluation of GHG emissions impacts.

Because the warming potential of the identified GHGs differ, GHG emissions are typically expressed in terms of carbon dioxide equivalents ($CO_2e$), providing a common expression for the combined volume and warming potential of the GHGs generated by a particular emitter. The total GHG emissions from individual sources are generally reported in metric tons (MT) and expressed as MT of $CO_2$ equivalents ($MTCO_2e$).

On April 2, 2007, in *Massachusetts v. EPA*, the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution. The Administrator found that GHGs threaten the public health and welfare of current and future generations, and that the combined emissions from new motor vehicles and new motor vehicle engines contribute to the GHG pollution. These findings do not themselves impose any requirements but was a prerequisite for implementing GHG emission standards.[31]

On September 22, 2009, the US EPA issued a final rule for the mandatory reporting of GHG data and other relevant information from large sources in the US. This comprehensive, Nationwide emissions data is intended to provide a better understanding of the sources of GHGs and guide development of policies and programs to reduce emissions.[32]

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[31] U.S. EPA, Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, Accessed on July 23, 2020 at: https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean.

[32] US EPA, Greenhouse Gas Reporting Program (GHGRP), Accessed on October 9, 2020 at: https://www.epa.gov/ghgreporting/learn-about-greenhouse-gas-reporting-program-ghgrp.

In May of 2010, the National Highway Traffic Safety Administration and the US EPA established a coordinated program for Federal standards for GHG emissions and corporate average fuel economy for light-duty vehicles in order to improve fuel economy and reduce GHG emissions. Together with the US EPA's standards for GHG emissions the National program overall is expected to result in improvements equivalent to 50.8 mpg if all reductions are achieved exclusively through fuel economy improvements.[33]

In July 2002, the State enacted AB 1493, which directed the CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks. In September 2004, pursuant to this directive, the CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. In September 2009, the CARB adopted amendments to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations are collectively known as the Pavley regulations. It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, as well as improve fuel efficiency and reduce motorists' costs.[34]

The State enacted SB 1078 in 2002, establishing the RPS program and requiring retail sellers of electricity to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources. SB 1078 requires each electrical corporation to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. The State enacted SB 107 in 2006, which modified the RPS to require that at least 20 percent of electricity retail sales be served by renewable energy resources by 2010.[35]

Former Governor Schwarzenegger's 2005 Executive Order S-3-05 included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a CAP. The Secretary of the California Environmental Protection Agency (CalEPA) leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the CAP and to report biannually on the progress made toward meeting the emission reduction targets established in the Executive Order.[36] However, as reported in the 2017 Climate Change Scoping Plan, California is on track to exceed its 2020 GHG reduction target. Executive Order B-30-15 and Senate Bill (SB) 32 extended the goals of Assembly Bill (AB) 32 (further addressed below) and set a goal of reducing emissions by 40 percent below 1990 levels by 2030.

State AB 32, the Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.), established broad and wide-ranging mandatory provisions and dramatic GHG reduction targets within specified time frames, including a requirement that California's GHG emissions be reduced to 1990 levels by 2020 (representing an approximate 25 percent reduction in emissions). SB 97 required the CEQA Guidelines to be updated to include guidance for the evaluation of GHG emissions impacts as well.[37] Pursuant to AB 32, the CARB identified 427 million MTCO$_2$e as the total Statewide aggregated 1990 GHG emissions level, which serves as the 2020 emissions limit. The CARB estimates that a GHG emissions reduction of 173 million MTCO$_2$e below business-as-usual (BAU) will be required to meet the Statewide emissions limit by year 2020.[38] Based on these numbers, CARB published a list of "early actions," adopted

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[33] NHTSA, EPA and ARB, Draft Technical Assessment Report (TAR) Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025, July 2016.

[34] California Air Resources Board, California Air Resources Board Approves Advances Clean Car Rules, Accessed on July 21, 2020 at: https://ww2.arb.ca.gov/news/california-air-resources-board-approves-advanced-clean-car-rules.

[35] California Energy Commission, Renewables Portfolio Standard, Accessed on July 21, 2020 at: https://www.cpuc.ca.gov/rps/.

[36] Office of Governor Arnold Schwarzenegger, Executive Order S-3-05. June 1, 2005.

[37] California Air Resources Board, Assembly Bill 32 Overview, Accessed on July 23, 3030 at: https://ww3.arb.ca.gov/cc/ab32/ab32.htm.

[38] California Air Resources Board, Staff Report, California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit. November 16, 2007.

regulations implementing such actions, published a Scoping Plan and updates thereto, and enacted a series of implementing regulations.

In addition, in 2008, the California Building Standards Commission adopted the nation's first green building standards, which have been periodically amended. California's Green Building Standards Code (Part 11 of Title 24 of the California Code of Regulations), referred to as CALGreen, establish voluntary and mandatory standards for construction projects that relate to sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. The 2016 CALGreen standards became effective on January 1, 2017.[39] Title 24, Part 6 of the California Code of Regulations regulates the design of building shells and building components. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The California Energy Commission (adopted the 2016 Building Energy Efficiency Standards (2016 Building Standards), effective January 1, 2017.[40] The 2019 Green Building Standards are to go into effect January 1, 2020 and shall apply to the Project, as construction is anticipated to begin in 2021.

In 2015, the State enacted the Clean Energy and Pollution Reduction Act, or SB 350. SB 350 increases the State's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of RPS-eligible resources, including solar, wind, biomass, and geothermal sources, among others. In addition, SB 350 requires the State to double its energy efficiency savings in electricity and natural gas end uses by 2030.[41]

The Unincorporated Los Angeles County Community Climate Action Plan 2020 (CCAP), which was adopted in 2015, describes the County's plan to reduce the impacts of climate change by reducing GHG emissions from community activities in the unincorporated areas of Los Angeles County by at least 11 percent below 2010 levels by 2020. The 2020 CCAP addresses emissions from building energy, land use and transportation, water consumption, and waste generation. The CCAP, a component of the County's 2015 General Plan, describes the County's plan for achieving this goal, including specific actions for each of the major emissions sectors, and provides details on the 2010 and projected 2020 emissions in the unincorporated areas.[42, 43]

On November 30, 2015, the California Supreme Court released its opinion on *Center for Biological Diversity v. California Department of Fish and Wildlife*, commonly referred to as the Newhall Ranch Case. Due to the importance of the Supreme Court as the top entity within the California Judiciary, and because of the relative lack of judicial guidance regarding how GHG issues should be addressed in CEQA documents, the opinion provided important legal guidance to agencies charged with evaluating impacts related to GHG emissions under CEQA. In relation to GHG analyses, the Newhall Ranch Case illustrated the difficulty of complying with Statewide GHG reduction targets at the local level using CEQA to determine whether an individual project's GHG emissions will create a significant environmental impact triggering an EIR, mitigation, and/or a Statement of Overriding Consideration.[44] In response to the case, the Supreme Court provided the following guidance regarding options to evaluate cumulative significance at the project level:

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[39] California Building Standards Commission, 2016 California Green Building Standards Code (CALGreen), California Code of Regulations Title 24, Part 11, January 1, 2017.

[40] California Energy Commission, 2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings, 2018.

[41] California Energy Commission, Clean Energy and Pollution Reduction Act – SB 350, Accessed on July 23, 2020 at: https://www.energy.ca.gov/rules-and-regulations/energy-suppliers-reporting/clean-energy-and-pollution-reduction-act-sb-350.

[42] County of Los Angeles Department of Regional Planning, Final Unincorporated Community Climate Action Plan 2020, August 2015.

[43] The 2020 CCAP is in the process of being updated: https://planning.lacounty.gov/site/climate/climate-action-plan-update/

[44] Kaatz, Joe, Energy Policy Initiative Center, University of San Diego, *Center for Biological Diversity et al., v. California Department of Fish and Wildlife*, and the Newhall Land and Farming Company: the Burden of CEQA Land Use GHG Emission Reduction Analysis at the Local Level. January 20, 2016, Accessed on July 23, 2020 at: https://epicenergyblog.com/2016/01/20/center-for-biological-diversity-et-al-v-california-department-of-fish-and-wildlife-and-the-newhall-land-and-farming-company-the-burden-of-ceqa-land-use-ghg-emission-reduction-analysis-at-the-loca/.

- The lead agency determination of what level of GHG emission reduction from business as usual (BAU) projection that a new land development at the proposed location will need to achieve to comply with statewide goals upon examination of data behind the Scoping Plan's BAU emission projections. The lead agency must provide substantial evidence and account for the disconnect between the Scoping Plan, which dealt with the State as a whole, and an analysis of an individual project's land use emissions.
- The lead agency may use a project's compliance with performance-based standards, such as high building efficiency, adopted to fulfill a Statewide plan to reduce or mitigate GHG emissions to assess consistency with AB 32 to the extent that the project features comply with or exceed the regulation. A significance analysis will then need to account for the additional GHG emissions, such as transportation emissions, beyond the regulated activity. Transportation emissions are in part a function of the location, size, and density or intensity of a project, and thus can be affected by local governments' land use decision making. Additionally, the lead agency may use a programmatic effort including a general plan, long range development plan, or a separate plan to reduce GHG emissions (such as a CAP or a SB 375 metropolitan regional transportation impact SCS) that accounts for specific geographical GHG emission reductions to streamline or tier project level CEQA analysis pursuant to CEQA Guidelines Section 15183.5(a) through (b) for land use and PRC Section 21155.2 and 21159.28 and CEQA Guidelines Section 15183.5(c) for transportation.
- The lead agency may rely on existing numerical thresholds of significance for GHG emissions (such as the Bay Area Air Quality Management District's proposed threshold of significance of 1,100 MTCO$_2$E in annual emission for CEQA GHG emission analysis on new land use projects). The use of a numerical value provides what is "normally" considered significant but does not relieve a lead agency from independently determining the significance of the impact for the individual project (CEQA Guidelines Section 15064.7).[45]

Based on the Supreme Court's guidance on GHG analysis resulting from the Newhall Ranch Case, this analysis both quantifies the Project's GHG emissions and provides an analysis of the Project's consistency with the applicable CAP, the County's 2020 CCAP.

As described in the CCAP, the County's CAP complies with CEQA by quantifying all primary sectors of GHG emissions within the unincorporated areas for years 2010 and 2020; including a reduction target of at least 11 percent below 2010 levels, which is consistent with the recommendations in the AB 32 Scoping Plan for municipalities to support the overall AB 32 reduction targets; analyzing community emissions for the unincorporated areas as a whole and including predicted growth expected by 2020; including specific measures to achieve the overall reduction target; including periodic monitoring of plan progress; and submitting the CCAP to be adopted in a public process following compliance with CEQA. Therefore, project-specific environmental documents that incorporate applicable CCAP actions can "tier off" the EIR that was certified for the County General Plan (2035) and CCAP to meet project-level CEQA evaluation requirements for GHG emissions. Tiering from the General Plan EIR allows project-specific environmental documents that rely on the CCAP to qualitatively evaluate GHG impacts by identifying the applicable CCAP actions and describing how those actions have been incorporated into the project design and/or identified as mitigation.[46] There are 26 local actions included in the CCAP. The local actions are grouped into five strategy areas: green building and energy; land use and transportation; water conservation and wastewater; waste reduction, reuse, and recycling; and land conservation and tree planting. Project consistency with the CCAP is evaluated in **Table 8-1, Project Consistency with the Local Actions and Goals of the Los Angeles County Community Climate Action Plan**.

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[45] Kaatz, Joe, Energy Policy Initiative Center, University of San Diego, *Center for Biological Diversity et al., v. California Department of Fish and Wildlife*, and the Newhall Land and Farming Company: the Burden of CEQA Land Use GHG Emission Reduction Analysis at the Local Level. January 20, 2016, Accessed on July 23, 2020 at: https://epicenergyblog.com/2016/01/20/center-for-biological-diversity-et-al-v-california-department-of-fish-and-wildlife-and-the-newhall-land-and-farming-company-the-burden-of-ceqa-land-use-ghg-emission-reduction-analysis-at-the-loca/.

[46] County of Los Angeles Department of Regional Planning, Final Unincorporated Community Climate Action Plan 2020, August 2015.

## Table 8-1
## Project Consistency with the Local Actions and Goals of the Los Angeles County Community Climate Action Plan

| Action | Description | Project Consistency |
|---|---|---|
| **Green Building and Energy** | | |
| **BE-1: Green Building Development** | Encourages energy reductions in new development | **Consistent.** The Project will comply with applicable energy reduction and efficiency requirements of the California Code of Regulations Title 24 Part 6 (Building Energy Efficiency Standards) and Part 11 (CalGreen Code), as well as Title 31 (Green Building Standards) of the County Code. |
| **BE-2: Energy Efficiency Programs** | Sets goals for energy efficiency retrofits for existing Development. | **Not applicable.** The Project will replace a parking lot with a new school. The site does not contain an existing building to retrofit. The Project will not interfere with the County's efforts to implement this action. |
| **BE-3: Solar Installations** | Encourages solar installations for new and existing buildings | **Consistent.** The Project will comply with applicable Building Energy Efficiency Standards, by providing either a roof solar zone for future solar installation, or comparable exceptions as allowed by California Code of Regulations Title 24, Part 6. |
| **BE-4: Alternative Renewable Energy Programs** | Promotes alternative renewable energies | **Not applicable.** As the Project proposes to construct a school (K-8), it will not be responsible for promoting or implementing pilot alternative energy projects. The Project will not interfere with the County's efforts to implement this action. |
| **BE-5: Wastewater Treatment Plant Biogas** | Encourages renewable biogas projects | **Not applicable.** It is not the responsibility of the Project to encourage such projects throughout the County. The Project will not interfere with the County's efforts to implement this action. |
| **BE-6: Energy Efficiency Retrofits of Wastewater Equipment** | Promotes efficient treatment equipment. | **Not applicable.** Wastewater treatment will be provided for the Project by connection to the existing municipal utility. No onsite wastewater treatment equipment is proposed. It is not the responsibility of the Project to encourage or install retrofits of wastewater equipment for energy efficiency. The Project will not interfere with the County's efforts to implement this action. |
| **BE-7: Landfill Biogas** | Encourages renewable biogas projects at regional landfills | **Not applicable.** It is not the responsibility of the Project to undertake such projects. The Project will not interfere with the County's efforts to implement this action. |
| **Land Use and Transportation** | | |
| **LUT-1: Bicycle Programs and Supporting Facilities** | Expands and improves facilities for cyclists. | **Consistent.** The Project will provide onsite bicycle parking facilities (short term and long term) that exceed County Code to promote cycling. |

| | | |
|---|---|---|
| **LUT-2: Pedestrian Network** | Improves pedestrian infrastructure to promote walking and access to transit. | **Not applicable.** It is not the responsibility of the Project to undertake pedestrian infrastructure projects. However, the Project will place a school facility within a residential area, improving the diversity of uses that promote walking. The site is also located near existing transit. The Project will not interfere with the County's efforts to implement this action. |
| **LUT-3: Transit Expansion** | Creates bus priority lanes and improves transit facilities and amenities | **Not applicable.** As stated above, it is not the responsibility of the Project to undertake pedestrian, transit, or other infrastructure projects. However, the Project is located within 0.5 mile of an existing Metro Blue Line rail station. Additionally, multiple bus stops served by various Metro bus routes as well as a LADOT Dash bus route are located near the site, within approximately 0.05 to 0.25 miles from the site. The Project will not interfere with the County's efforts to implement this action. |
| **LUT-4: Travel Demand Management** | Encourages employer-sponsored programs to reduce vehicle use. | **Consistent.** The Project will be located in close proximity to existing rail and bus transit facilities and will also provide bicycle parking facilities to reduce vehicle use, consistent with the goal of this action. The Project will not interfere with the County's efforts to encourage employer-sponsored Travel Demand Management programs. |
| **LUT-5: Car-sharing Program** | Provides on-demand access to a shared vehicle fleet. | **Not applicable.** It is not the responsibility of the Project to implement such projects throughout the County. As the Project proposes to construct a K-8 school facility, it will not be feasible to provide a fleet of vehicles for on-demand use. The Project will not interfere with the County's efforts to implement this action. |
| **LUT-6: Land Use Design and Density** | Promotes sustainability in land use design. | **Consistent.** The Project will construct a K-8 school facility, which will not affect population density in the region. The proposed school will increase the diversity of land uses in the area and is anticipated to serve students from nearby areas of the City, which will be consistent with the goal of promoting sustainable land use. |
| **LUT-7: Transportation Signal Synchronization Program** | Enhances traffic signal synchronization | **Not applicable.** It is not the responsibility of the Project to encourage such projects throughout the County. The Project will not interfere with the County's efforts to implement this action. |
| **LUT-8: Electric Vehicle Infrastructure** | Promotes electric vehicle infrastructure. | **Consistent.** The Project will include 3 EVCS spots per Cal Green Table 5.106.5.3.3 to reduce overall emissions and promote electric vehicle use within the Project site. |

| | | |
|---|---|---|
| **LUT-9: Idling Reduction Goal** | Limits idling time for heavy-duty construction equipment | **Consistent.** The Project's non-particulate construction activity emissions are not predicted to exceed SCAQMD CEQA thresholds. Idling time for heavy-duty equipment is currently limited to less than five minutes per existing regulations. The Project will not interfere with the County's efforts to implement this action. |
| **LUT-10: Efficient Goods Movement** | Maximizes the efficiency of goods movement. | **Not Applicable.** The Project is not part of the County's goods movement system, and it is not the responsibility of the Project to identify the means by which to maximize the efficiency of this system. The Project will not interfere with the County's efforts to implement this action. |
| **LUT-11: Sustainable Pavements Program** | Improves the efficiency of pavement rehabilitation | **Consistent.** It is the responsibility of the LADPW to identify pavement improvement projects. However, to the extent that the Project will require working in the public right-of-way in order to connect the Project site to utility lines, the demolition/construction waste generated by these activities will be disposed of in compliance with Statewide solid waste diversion requirements and the County's Title 31 (Green Building Standards Code), which includes a waste diversion component. |
| **LUT-12: Electrify Construction and Landscaping Equipment** | Establishes electrification goals for equipment. | **Consistent.** Construction equipment may include electric versions of compressors, and other smaller equipment where feasible. The Project will not interfere with the County's efforts to implement this action. |
| **Water Conservation and Wastewater** | | |
| **WAW-1: Per Capita Water Use Reduction Goal** | Reduces per capita water consumption; goals range from 5-20% below baseline values | **Consistent.** The Project will comply with applicable Building Energy Efficiency Standards Title 24, Part 6), and Title 31 of the County Code (the Green Building Standards Code), including water efficiency in indoor fixtures, as well as the water-efficient landscaping requirements of the County Code (Title 20, Chapter 20.09). |
| **WAW-2: Recycled Water Use, Water Supply Improvement Programs, and Storm Water Runoff** | Encourages use of recycled and grey water. | **Not Applicable.** It is not the responsibility of the Project to promote the use of wastewater and gray water throughout the County. However, the Project will comply with the County's LID Standards for stormwater management and treatment to manage stormwater quality. |
| **Waste Reduction, Reuse, and Recycling** | | |
| **SW-1: Waste Diversion Goal** | Reduce landfilled waste by diverting at least 75% of waste. | **Consistent.** Although it is not the responsibility of the Project to adopt waste diversion goals, the Project will be required to comply with County and Statewide solid waste diversion requirements per the applicable Green Building Standards Code's waste diversion component. |

| | | |
|---|---|---|
| **Land Conservation and Tree Planting** | | |
| **LC-1: Develop Urban Forests** | Supports and expands urban forest programs. | **Consistent.** The Project site is currently a paved parking lot with existing vegetation including non-native landscaping and invasive herbaceous species. The proposed school facility will be landscaped with trees and shrubs to expand urban greenery. |
| **LC-2: Create New Vegetated Open Space** | Promotes land restoration and re-vegetation. | **Not Applicable.** The Project will redevelop a paved parking lot with a school facility and landscaping. However, the Project does not propose to create open space, nor is the Project in the vicinity of Open space. The Project will not interfere with the County's efforts to implement this action. |
| **LC-3: Promote the Sale of Locally Grown Foods and/or products** | Supports locally grown food. | **Not Applicable.** It is not the responsibility of the Project or Applicant to establish such land uses. The Project will not interfere with the County's efforts to implement this action. |
| **LC-4: Protect Conservation Areas** | Encourage protection of current natural areas. | **Not Applicable.** The Project site is located in a heavily urbanized area and is not located within or near any conservation areas. The Project will not interfere with the County's efforts to implement this action. |
| Source: County of Los Angeles, Department of Regional Planning, Final Unincorporated Community Climate Action Plan 2020, August 2015. | | |

As demonstrated by the policy consistency analysis above, the Project will not conflict with the applicable CCAP stated actions and goals, adopted for the purpose of reducing the emissions of GHG. While the Project's GHG emissions impact determination relies mainly on an evaluation of consistency with the CCAP, which is sufficient for a significance determination, a quantitative disclosure of the Project's estimated GHG emissions is also provided below.

On December 5, 2008 the SCAQMD Governing Board adopted a staff proposal for an interim quantitative GHG significance threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 MTCO$_2$e/year. The SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, dated October 2008, also included a recommendation for establishing an interim GHG significance threshold of 3,000 MTCO$_2$e/year for residential and commercial projects in addition to the 10,000 MTCO$_2$e/year threshold for industrial facilities. The policy objective of staff's recommended interim GHG significance threshold proposal was to achieve an emission capture rate of 90 percent of all new or modified stationary source projects to address the long-term adverse impacts associated with global climate change. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects will be subject to some type of CEQA analysis.[47]

In September 2010, with regard to numerical GHG significance thresholds for residential and commercial uses, the SCAQMD staff presented the GHG CEQA Significance Threshold Stakeholder Working Group #15 with recommendations for two options for significance screening levels of GHG emissions for lead agencies to choose from to determine significance of non-industrial projects.[48] The first option was to use separate screening thresholds for residential, commercial, and mixed use projects, with a numerical threshold of 3,500 MTCO$_2$e/year for residential projects. The second option was to use one screening threshold of 3,000

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[47] South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008.

[48] South Coast Air Quality Management District, Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15. September 28, 2010.

$MTCO_2e$/year for residential, commercial, and mixed-use projects. Incidentally, the California Air Pollution Control Officers Association (CAPCOA) has suggested that a quantitative threshold option that is designed to capture projects that represent approximately 90 percent of GHG emissions from new projects and excludes smaller projects (less than 50 units) that contribute a relatively small fraction of the cumulative statewide GHG emissions.[49]

The SCAQMD's proposed screening level options of 3,000 $MTCO_2e$ per year for residential and commercial projects, or 3,500 $MTCO_2e$ per year for residential projects will meet CAPCOA's intent for the suggested quantitative threshold option. Given the lack of a formally adopted numerical significance threshold applicable to this Project, SCAQMD's proposed screening level of 3,000 $MTCO_2e$ is used to provide a quantitative disclosure of the Project's estimated GHG emissions. The Project's GHG emissions were estimated using the CalEEMod 2016.3.2 emissions estimation model provided by SCAQMD. The CalEEMod output is provided in Appendix C-1.

### Construction Emissions

During construction, demolition, use of heavy equipment, disposal of construction waste, and application of various construction materials (paint, asphalt, etc.) will result in the short-term generation of GHG emissions. The Project's construction-related GHG emissions were modeled using CalEEMod. The estimated construction-related GHG emissions generated over the full duration of construction activities during 2021 and 2022 will be 480.8 $MTCO_2e$. The SCAQMD GHG emissions analysis policy for construction activities recommends amortization of emissions over a 30-year project lifetime to evaluate significance on an annual basis. Based on the total construction period emissions, the Project's 30-year annual amortized GHG emissions will be approximately 16.0 $MTCO_2e$. This amortized amount is added to the operations annual emissions, evaluated below, to determine whether the Project's annual GHG emissions will remain below a level of significance.

### Operational Emissions

As shown in **Table 8-2, Greenhouse Gas Emissions,** the Project's operational GHG emissions are estimated to be approximately 1,491.8 $MTCO_2e$ annually with the majority of these associated with mobile sources. Adding the amortized construction emissions of approximately 16.0 $MTCO_2e$, to the operational emissions, the Project's annual GHG emissions total will be approximately 1,507.8 $MTCO_2e$, which is under the more conservative suggested screening threshold for residential and commercial projects of 3,000 $MTCO_2e$ per year.

**Table 8-2**
**Greenhouse Gas Emissions**

| Generation Source | $MTCO_2e$/year |
|---|---|
| Area Sources | <0.1 |
| Energy Utilization | 201.1 |
| Mobile Source | 1,244.2 |
| Solid Waste Generation | 22.3 |
| Water Consumption | 24.3 |
| **Total Operational Emissions** | 1,491.8 |
| Annualized Construction | 16.0 |
| **Total Project GHG Emissions**(a) | 1,507.8 |
| **SCAQMD Screening Threshold** | 3,000 |
| Exceeds Threshold? | No |

Source: CalEEMod 2016.3.2 Output in Appendix C-1.
(a) Totals may not add due to rounding.

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[49] California Air Pollution Control Officers Association (CAPCOA), CEQA and Climate Change White Paper, January 2008.

As the Project will be consistent with the CCAP and will also generate GHG emissions below the screening threshold of the SCAQMD, the potential for the Project to substantially contribute to GHG emissions and resulting effects on the environment will be less than significant.

|  |  |  |  |  |
|---|---|---|---|---|
| **b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** As discussed above, the Project will not conflict with, or impair implementation of the CCAP, which is the County's applicable plan for reducing greenhouse gases. Impacts will be less than significant.

## 9. HAZARDS AND HAZARDOUS MATERIALS

| **Would the project:** | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials?** | ☐ | ☐ | ☒ | ☐ |

The following hazards analysis is primarily based on the Further Phase II Environmental Site Assessment Subsurface Soil and Soil Gas Investigation Report ("Expanded Phase II"), prepared by ENCON on October 5, 2018, and included as **Appendix F-1.** The ENCON Phase II ESA report concurred with the findings and conclusions presented in the Phase I ESA Report conducted by WEECO dated April 16, 2018, and limited Phase II ESA Report also conducted by WEECO dated June 11, 2018.

In response to the recommendations presented by the Los Angeles County Fire Department (LACoFD), a Supplemental Site Investigation, prepared by Hazard Management Consulting, Inc., dated April 1, 2022, and included as **Appendix F-2**, was conducted, and a Soil Management Plan (SMP), prepared by Hazard Management Consulting, Inc., dated April 28, 2022 and included as **Appendix F-3,** was provided.

**Less Than Significant Impact.** The proposed Project (charter school K-8th) will not be associated with routine transport, storage, production, use, or disposal of hazardous materials. Onsite use of common household cleaners, or other chemicals associated with landscaping or other maintenance activities will not be considered to represent a significant hazard to the public. During construction, fuels or other potentially hazardous construction related materials could be used onsite, but due to the temporary nature of the construction activities, such materials will not be routinely transported to, or stored on the Project site. Therefore, potential impacts related to routine transport, storage, production, use, or disposal of hazardous materials will be less than significant.

| | | | | |
|---|---|---|---|---|
| **b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or waste into the environment?** | ☐ | ☒ | ☐ | ☐ |

**Less Than Significant Impact with Mitigation Incorporated.** A Phase II ESA report was conducted and concurred with the findings and conclusions presented in the Phase I ESA Report and limited Phase II ESA Report. Based on ENCON's review of the previous reported data, they concluded that the WEECO Phase II ESA Investigation was limited to 1628-1639 East 81st Street and did not include the complete site investigation of the entire property of 1619-1659 East 82nd Street and 8151 South Maie Avenue. Therefore, a full soil investigation of the Project site was warranted.

According to the available historical sources provided in the Phase I ESA Report, prior to 1952 the Project site was occupied by a truck yard and truck repair facility located at 628-1938 E. 81st Street. From 1963 to 1972, the Project site was likely used for textile manufacturing and distribution. From 1980 to the present, the site has been operating as an asphalt paved parking lot for MJ Textile located at 8122 South Maie Avenue. Because these former historical truck repair facility and textile manufacturing operations involved the use of hazardous materials and generating hazardous waste, a limited Phase II ESA was conducted by WEECO in

June 2018 and an Expanded Phase II ESA was conducted by ENCON to further investigate the Project site. The following list describes these former hazardous operations, also called Recognized Environmental Conditions (REC):

1. REC #01 – Automotive repair facility and potential soil contamination. Automotive repair operations typically include the storage and use of hazardous materials which pose a potential risk to the Project site, requiring further investigation.
2. REC #02 – Potential chemical vapor intrusion concerns. Due to the historical use of the Project site, there is potential for Vapor Intrusion Conditions (VICs), requiring further investigation.

Based on the Expanded Phase II ESA, there is no evidence of chemical affected soil or soil gas in connection with the former automotive repair operations and former industrial manufacturing operations at the site. In addition, the soil gas results indicate that the Project site was not adversely affected by the use of petroleum hydrocarbons in the waste oil range (TPHo), Volatile Organic Compounds and polychlorinated biphenyl chemicals, and no VICs exist beneath the Project site. The metal compound soil data found in these tested areas were all within normal background ranges for Southern California, including the slightly elevated arsenic levels, ranging from 5.28 mg/kg to 7.71 mg/kg. These arsenic concentrations are above the Tier 1 ESL levels, however the results are below the CalEPA Department of Toxic Substances Control (DTSC)'s Arsenic Adjusted Background Concentration of 12 mg/kg. This adjusted background arsenic concentration is used as a screening level for anthropogenic and naturally occurring levels of arsenic in Southern California. As such, the Phase II ESA found the Project site suitable for the intended charter school use with no environmental limitations or restrictions.

The LACoFD reviewed the project and Expanded Phase II[50], and determined the study lacked adequate shallow soil sampling for target chemicals of potential concern (COPCS), laboratory reporting limits were determined to be insufficient for detection and/or delineation of volatile organic compounds (VOCs) in soil vapor, and lacked soil vapor sampling at 15 feet below ground surface (bgs) in accordance with recent draft regulatory guidance (DTSC, 2020). In response to the recommendations presented by the LACoFD, a Supplemental Site Investigation Report and Soil Management Plan were prepared.

The Supplemental Site Investigation, included as Appendix F-2, conducted a total of 10 soil borings across the site at a target depth of 15 feet bgs to conduct a more thorough assessment of soils at the project site, and installed 10 dual-nested (5 and 15 feet bgs) soil vapor probes to identify soil vapor impacts. Ultimately, the Supplemental Site Investigation identified one soil sample that detected lead above the California Environmental Protection Agency (CalEPA) Regional Water Quality Control Board (RWQCB) Tier 1 Environmental Screening Levels (ESLs), and recommended the areas with elevated concentrations of lead should be removed and disposed of off-site prior to grading activities on-site. As such, the Project would implement MM **HAZ-1,** to conform with the Supplemental Site Investigation's recommendation to remove soils at areas with elevated concentrations of lead.

In addition, the Supplemental Site Investigation found that two VOCs were detected at concentrations slightly above their associated residential screening levels, including chloroform and tetrachloroethene (PCE). Chloroform was detected in one of the soil vapor probes, with slightly higher levels than the residential screening threshold, but was well below the commercial threshold and no chloroform source was found to be present in the soil or soil vapor. PCE showed minor exceedances of residential screening levels but were well below the commercial screening levels. The Supplemental Site Investigation determined that soil vapor concentrations do not require vapor intrusion mitigation, given the trend of vertical attenuation between the

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[50] Los Angeles County Fire Department, Inter-Departmental Correspondence, Review of Case RPPL2021000118, November 15, 2021.

15 foot and 5 foot soil vapor probes. However, as part of the grading process, regulatory measure AQMD Rule 1166, which requires an approved mitigation plan prior to the excavation of underground storage tanks containing VOCs, excavation or grading of soil containing VOCs, handling or storage of VOC contaminated soils greater than 50 parts per million (ppm), or treatment of VOC contaminated soil at a facility,[51] should be followed and any potential unknown VOCs sources in the soil should be segregated and analyzed to assess whether it can be utilized as fill or must be removed from the site. Also, as part of the grading process, regulatory measure AQMD 1466, which aims to minimize off-site fugitive dust emissions from earth-moving activities at sites containing specific toxic air contaminants by establishing dust control measures,[52] would be implemented during grading.

The Supplemental Site Investigation also recommended grading and development of the site should proceed under an approved SMP, which would determine the significance of soil vapors during future grading activities and any identified sources of VOCs will be addressed in accordance with the South Coast Air Quality Management District requirements. The SMP, included as Appendix F-3, was developed in response to the LACoFD and Supplemental Site Investigations' recommendations. The SMP presents the procedures that will be used during site grading to notify workers as to the presence of residual concentrations of constituents of concern (COCs) within the soils. The SMP requires that soil excavation and grading operations will be conducted in accordance with specific soil management protocols, such as air and dust monitoring, unanticipated environmental conditions, stockpiling, off-site disposal, imported fill material, equipment cleaning, soil sampling procedures, and notifications, to cover both known and unanticipated environmental conditions.

The LACoFD completed the review of the Supplemental Site Investigation,[53] and concurred with the conclusions and recommendations presented in the Supplemental Site Investigation Report to submit the Project-specific SMP for review and approval, specify on-site soil areas impacted by elevated lead concentrations and properly remove and dispose of prior to grading activities, and implement AQMD Rules 1466 and 1166.

The Project would implement HAZ-1 to ensure areas with elevated concentrations of lead will be removed of and disposed off-site prior to grading activities, would implement the SMP, which will be reviewed and approved by the LACoFD, and follow all procedures and soil management protocols, and comply with regulatory measure AQMD 1166 and 1466. Therefore, no hazardous material impact will occur with mitigation incorporated.

**Mitigation Measure:**

**HAZ-1** The areas with elevated concentrations of lead shall be removed and disposed of off-site prior to grading activities. During grading, a field x-ray fluorescence spectrometry (XRF) unit shall be used to monitor the potential for additional locations to contain lead that may be encountered. If elevated concentrations of lead are encountered, that soil should be segregated and analyzed to determine whether it can be utilized as fill, or must be removed from the site and disposed of as non-hazardous waste.

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[51] South Coast Air Quality Management District, Rule 1166, Site Specific and Various Locations Soil Mitigation Plan, Accessed on May 5, 2022 at: http://www.aqmd.gov/home/rules-compliance/compliance/rule-1166-site-specific-and-various-locations-soil-mitigation-plan.

[52] South Coast Air Quality Management District, Rule 1466, Control of Particulate Emissions from Soils with Toxic Air Contaminants, Accessed on May 5, 2022 at: https://www.aqmd.gov/home/rules-compliance/compliance/rule-1466.

[53] Los Angeles County Fire Department, Inter-Departmental Correspondence, Review of Supplemental Site Investigation Report, April 8, 2022.

|  |  |  |  |  |
|---|---|---|---|---|
| **c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Project proposes to develop a new charter school (K-8th) with a parking lot and associated landscaping and multiple playground areas, which are not expected to emit or handle substantial hazardous or acutely hazardous materials, substances, or waste. As such, the potential for the Project to emit such materials within one-quarter mile of a sensitive land use will be less than significant.

|  |  |  |  |  |
|---|---|---|---|---|
| **d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** A search of the California Environmental Protection Agency's (CalEPA's) Cortese List Data Resources databases[54] showed that the Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The search involved the following records:

- Department of Toxic Substances Control's (DTSC's) Envirostor Hazardous Waste and Substances Site List;
- State Water Resources Control Board's (SWRCB's) GeoTracker database (for Leaking Underground Storage Tank sites, Department of Defense sites, and Cleanup Program sites, as well as GeoTracker irrigated lands, oil and gas production, operating permitted USTs, and Land Disposal sites); and,
- CalEPA's list of solid waste disposal sites; and the SWRCB's list of Cease and Desist Orders and Cleanup and Abatement Orders.
- Information required from the DTSC under Government Code Section 65962.5(a).

The Project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will not create a significant hazard to the public or the environment. Therefore, the Project will have no impact associated with being located on a site that is included on a list of hazardous materials sites.

|  |  |  |  |  |
|---|---|---|---|---|
| **e) For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Compton/Woodley Airport, located at 901 W Alondra Blvd in Compton, is approximately 5.1 miles south of the Project site and is the closest airport to the site. The Project site is not within an approach or departure flight corridor for the Compton/Woodley Airport, and consequently will not result in an airport related safety hazard for people in the Project area. The Project will have no impact regarding safety hazards related to proximity to a public airport.

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[54] California Environmental Protection Agency, Cortese List Data Resources, Accessed on March 22, 2022 at: https://calepa.ca.gov/sitecleanup/corteselist/.

**f) Substantially impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** The emergency response plan for the unincorporated areas of the County is the Operational Area Emergency Response Plan (OAERP), which is prepared by the County Office of Emergency Management (OEM)[55]. The OAERP addresses short and long-term emergency response and recovery capability and identifies emergency procedures and emergency management routes in Los Angeles County.

According to General Plan Figure 12.6, Disaster Routes Map, the nearest Highway Disaster Route is South Alameda Street, which is located approximately 0.7 driving miles to the east of the Project site. Additional nearby disaster routes include Florence Avenue (0.7 miles), I-110 (2.3 miles), I-105 (2.8 miles), to name a few.

For student pick up and drop off, the Project will have two separate ingress/egress driveways which provide ingress to the site from East 81st Street and egress at Maie Avenue, which will direct internal circulation and provide vehicular access to the Project site. In addition, the proposed underground parking garage exit and entry point will be located on 82nd Street. Project access and roadway widths will comply with County Regional Planning and Fire Department requirements.

As there are ample routes in the vicinity, the Project has been designed to allow safe and efficient ingress and egress, and the Project will not create transportation hazards (see Section 17, Transportation), the Project will not impair or physically interfere or otherwise impair with the County OAERP or other adopted emergency response or evacuation plan, and thus will have a less than significant impact.

**g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving fires, because the project is located:**

**i) within a high fire hazard area with inadequate access?** ☐ ☐ ☐ ☒

**No Impact.** As seen in General Plan Figure 12.5, Fire Hazard Severity Zones Policy Map, the Project site does not fall within a Very High Fire Hazard Severity Zones (VHFHSZ). The Project site is an infill property located in a flat and urbanized area of the County, which is not within a VHFHSZ and will not create risks associated with placing housing in high fire hazard areas. As such, the Project will have no impact regarding inadequate access to a high fire hazard area.

**ii) within an area with inadequate water and pressure to meet fire flow standards?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** The Project site is currently developed and located within a fully urbanized area of the County. The Golden State Water Company is the water purveyor for the Project site and the County of Los Angeles Fire Department, Fire Prevention Division provided a Will Serve Letter (**Appendix G**), which includes an Information of Fire Flow Availability, dated February 2, 2019, as completed by the Golden State Water Company. Based on this assessment, Hydrant No. 125 is located

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[55] County of Los Angeles, Chief Executive Office, OEM at a Glance, Accessed on June 23, 2020 at: https://ceo.lacounty.gov/emergency-management/#1509664666412-3b8082ec-9e47.

approximately 90 feet from the property line and no issues with adequate water distribution were reported based on the fire flow test date run April 8, 2021. As such, water service to the site will meet minimum fire flow and fire hydrant requirements as provided by Section 20.16.060 of the Los Angeles County Water Code and the Project will have less than significant impact regarding inadequate water and pressure to meet fire flow standards.

**iii) within proximity to land uses that have the potential for dangerous fire hazard?** ☐ ☐ ☐ ☒

**No Impact.** The Project site is currently developed and located within a fully urbanized area of the County. Properties to the north, west and south are developed with single family homes. The properties east of the Project site, on the east side of Maie Avenue, are zoned M-1 (Light Industrial). This area is developed with commercial and warehouse uses, which are required to have internal fire safety features, including emergency exit signage and fire extinguishers. As an urbanized area, the community is currently provided fire service through nearby LA County Fire Department fire stations and an infrastructure of fire hydrants. In addition, schools in the vicinity, including the Project, will also have emergency response and evacuation plans, fire alarms, sprinklers, and fire drills to ensure the no impact will occur regarding potential for a dangerous fire hazard.

As stated above, the Golden State Water Company is the water purveyor for the Project site and the Information of Fire Flow Availability, included as Appendix G, provides a description of the fire flow infrastructure located within the vicinity and the results of the fire flow availability test. Based on this assessment, no issues with adequate water distribution were reported based on the fire flow test date run April 8, 2021. As such, the Project will meet the minimum fire flow and fire hydrant requirements as provided by Section 20.16.060 of the Los Angeles County Water Code. The Project will have less than significant impacts regarding inadequate water and pressure to meet fire flow standards.

**h) Does the proposed use constitute a potentially dangerous fire hazard?** ☐ ☐ ☐ ☒

**No Impact.** The Project site is an infill property located in a flat and urbanized area of the County and is not within a fire hazard area. Surrounding land uses are primarily residential with light manufacturing uses located to the east. The Project site is not located in or near lands that are classified as Very High Fire Severity Zones and will have no impact regarding risks associated with wildfire.

The Project would be constructed on a concrete podium elevated over the subterranean parking, and the school building exterior facade will be clad in painted plaster and metal panel accents, which would comply with all LA County Fire Code design requirements. Similar to schools in the vicinity, the Project will be sprinklered, constructed with internal fire doors to limit the spread of a fire, have fire alarms, and have emergency response and evacuation plans, and regular fire drills. Therefore, the Project will have no impact to proximate land uses regarding potential to constitute a dangerous fire hazard.

## 10. HYDROLOGY AND WATER QUALITY

| **Would the project:** | ***Potentially Significant Impact*** | ***Less Than Significant Impact with Mitigation Incorporated*** | ***Less Than Significant Impact*** | ***No Impact*** |
|---|---|---|---|---|
| **a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?** | ☐ | ☐ | ☒ | ☐ |

The following hydrology analysis is primarily based on the Hydrology and Low Impact Development Report, prepared by Brandow & Johnson on July 2, 2020 and included as **Appendix H.**

**Less Than Significant Impact.** In terms of water quality standards, the Project will be required to comply with the National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001, issued by the California Regional Water Quality Control Board (RWQCB) to the County, requiring an effective combination of erosion and sediment control BMPs to prevent erosion and sediment loss and the discharge of construction wastes to prevent erosion and sedimentation problems during construction. During construction, the Project will implement BMPs consistent with the Stormwater Best Management Practice Handbook for New Development and Redevelopment[56] for erosion control, sediment control, and waste management. During operations, the Project will comply with the County Low Impact Development (LID) Ordinance requirements. Project design and compliance with regulatory requirements such as BMPs and the LID Ordinance will reduce the Project impact to water quality standards and waste discharge requirements to less than significant.

| | | | | |
|---|---|---|---|---|
| **b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** As stated in the 2018 Geotechnical Evaluation Report included as Appendix E-2, groundwater was not encountered within the deepest exploratory boring at a depth of approximately 51.5 feet below the existing ground surface. Due to the absence of shallow groundwater, construction dewatering measures are not anticipated to be necessary during excavation operations. In the event groundwater is discovered during grading activities, disposal of groundwater will be performed in accordance with the guidelines set forth by the RWQCB.

During operations, the Project will be served by Golden State Water Company and provision by a retail provider will not deplete groundwater supplies by a substantial amount. Based on the Percolation Testing Report[57], infiltration is a feasible stormwater method and therefore the Project will allow stormwater runoff to percolate into the groundwater table and provide groundwater recharge. The Project will not reduce site permeability within the groundwater basin, compared to existing conditions. As such, the Project will have a less than significant impact with regard to the depletion of groundwater supplies and will not substantially

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[56] California Stormwater Quality Association, Stormwater Best Management Practice Handbook, New Development and Redevelopment, January 2003.

[57] Twinning, Inc., Percolation Testing Report, November 15, 2018. Included as Appendix G.

interfere with groundwater recharge such that there will be a net deficit in aquifer volume or a lower of the groundwater table level.

**c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**

**(i) Result in substantial erosion or siltation on- or off-site?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** The Project site is located in an urbanized area of the unincorporated County and no streams or river courses are located on the subject property. It is currently occupied by a vacant parking lot with no buildings or structures, and the site is 99 percent impervious area. The primary source of surface water in the Project site is rainfall runoff. Under existing conditions, overflow will drain to an existing catch basin at the southeast corner of the lot, and flow to the existing street curb on East 82nd Street or south down Maie Avenue and connect to existing storm drains.

The proposed Project building will contain downspouts that will connect to the proposed storm drain system. Surface runoff will drain to various catch basins located on the Project site and will be retained by the project-specific infiltration system, which will collect, store and percolate the storm water into the underlying soils. Any overflow from the infiltration system will discharge to 82nd Street through a proposed parkway drain. As a majority of the runoff will infiltrate into the soil, the Project will not substantially alter any existing, on-site draining sources resulting in new drainage patterns or sheet flow runoff. In addition, during construction, the Project will implement BMPs as required by the County Department of Public Works Construction Site BMP Manual. Operational runoff will be required to comply with the Municipal Separate Storm Sewer System NPDES Permit, often referred to as the "MS4 Permit" to capture erosion or siltation that could occurs on- or off-site. Therefore, the Project will not substantially alter the existing drainage pattern in a manner which will result in substantial erosion or siltation on- or off-site.

**(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** The Project is not located in a designated flood zone.[58] As previously discussed, the proposed catch basins and infiltration system will be designed to capture and percolate stormwater runoff to ensure that no on- or off-site flooding is caused by the Project. As such, the post-Project flows will be less than pre-Project flows. Compliance with federal, state and local design standards and regulations and the implementation and maintenance of appropriate BMPs will reduce impact of flooding on- or offsite. Therefore, impact will be less than significant.

**(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?** ☐ ☐ ☒ ☐

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[58] Los Angeles County, Department of Public Works, Flood Zone Determination Website, Accessed on July 6, 2020 at: https://pw.lacounty.gov/floodzone/.

**Less Than Significant Impact.** As discussed above, the proposed Project will not result in a significant increase in site runoff as it will not alter existing drainage patterns or substantially increase the volume or velocity of runoff. As stated in above, the proposed Project will not significantly alter the drainage pattern of the Project site. The catch basins and stormwater infiltration system will provide percolation on-site, with overflow runoff will discharge to 82nd Street through a proposed parkway drain and connect to existing infrastructure on the street. The Project will implement appropriate BMPs to reduce the impact of runoff and the Project will adhere to the applicable federal, state and local design standards and regulations. Project compliance will be reflected in the site design which will be subject to approval by the County of Los Angeles prior to site development. The integration of applicable design features mandated by existing regulations will ensure that site runoff will not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, the post-Project flows will not exceed or be substantially greater than pre-Project flows and impacts will be less than significant.

**(iv) Impede or redirect flood flows?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** The Project is located an urban area within the Florence-Firestone Community. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the Project site falls within an area of minimal flood hazard[59], and according to the General Plan, the Project site is not located within a 100- or 500- year flood plain.[60] As stated previously, the Project will utilize catch basins and an infiltration system to allow stormwater runoff to percolate into the soil and will therefore reduce flood flows. In addition, the Project will be designed in accordance with all applicable regulations and engineering standard practices to ensure that floods flows are captured, controlled, treated and conveyed to the infiltration system and overflow will be conveyed to the existing stormwater system. As such, the Project will not impede or substantially redirect flood flows and impacts will be less than significant.

**d) Conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84)?** ☐ ☐ ☐ ☒

**No Impact.** The Project will be required to comply with the County LID Ordinance intended to promote sustainability and improve the County's watersheds by preserving drainage paths and natural water supplies in order to "…retain, detain, store, change the timing of, or filter stormwater or runoff." Operational runoff from the proposed charter school will incorporate LID features, as stated in the Hydrology and LID Study, and allow for infiltration on-site. Therefore, the Project will have no impact regarding conflicts with the County LID Ordinance.

**e) Use onsite wastewater treatment systems in areas with known geological limitations (e.g., high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course)?** ☐ ☐ ☐ ☒

**No Impact.** The Project does not propose onsite wastewater treatment systems in areas with known geological limitations or in close proximity to surface water. Therefore, there will be no impact.

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[59] FEMA, National Flood Hazard Layer Viewer, Accessed on July 7, 2020 at: https://msc.fema.gov/portal/home.

[60] Los Angeles County Department of Regional Planning, General Plan 2035, Figure 12.2, Flood Hazard Zones Policy Map. April 2013.

| | | | | |
|---|---|---|---|---|
| **f) In flood hazard , tsunami, or seiche zones, risk release of pollutants due to project inundation?** | ☐ | ☐ | ☒ | ☐ |

**Less than Significant Impact.** According to General Plan Figure 12.2, Flood Hazard Zones Policy Map, the Project is not within a 100-year flood hazard area, floodway, or floodplain and according to the FEMA Flood Insurance Rate Map the Project is in an area of minimal flood hazard. In addition, the Project is not near a large body of water to be susceptible to inundation by a seiche. According to General Plan Figure 12.3, Tsunami Hazard Areas, the Project site is not located within a designated tsunami inundation area. The Project site is not located in a canyon area or along the base of a mountain slope and therefore will not be susceptible to mudflows. Therefore, the Project will have a less than significant impact on placing structures in areas subject to flood hazard, tsunami, or seiche zones.

| | | | | |
|---|---|---|---|---|
| **g) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** As discussed previously, the Project is located in an urbanized area of the County and groundwater was not encountered within the deepest exploratory borings. Under proposed conditions, surface runoff will drain to various catch basins located on the Project site and will be retained by the project-specific infiltration system, which will collect, store and percolate the storm water into the underlying soils. Any overflow from the infiltration system will discharge to 82nd Street through a proposed parkway drain. As percolation was determined to be feasible stormwater method, the Project will allow stormwater runoff to percolate into the groundwater table and provide groundwater recharge. Therefore, the Project will not conflict or obstruct the implementation of a water quality control plan or sustainable groundwater management plan and impacts of the proposed school will be less than significant.

## 11. LAND USE AND PLANNING

| **Would the project:** | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Physically divide an established community?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project site is currently occupied by a vacant asphalt parking lot. The existing zoning designation for the Project site is R-3, which allows for apartments, as well as two-family and single-family residential uses. Existing land uses surrounding the Project site include a mix of residential and manufacturing land uses. North, west and south of the Project site are primarily single and multi-family residential developments and east of the Project site is a light manufacturing building.

The Project requires a CUP to allow for the construction and operation of the proposed elementary school and associated amenities within the R-3 zone. Per LACC 22.18.030, school facilities require a conditional use permit to operate within the R-3 zone. As compliance with the Project CUP will allow for the construction and operation of a charter school within the R-3 zone, the Project will be consistent with the use allowances and design standards of the R-3 zone. Additionally, the school will serve the surrounding residential neighborhood and provide an additional public service to the community. As the Project will be compatible with the current zoning as well as the surrounding residential uses, it will not physically divide an established community. Therefore, the Project will have no impacts related to physically dividing an established community.

| | | | | |
|---|---|---|---|---|
| **b) Cause a significant environmental impact due to a conflict with any County land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Project site is located within an unincorporated area of the County of Los Angeles and therefore is subject to the policies of the Los Angeles County General Plan 2035. The Los Angeles County General Plan guides long-term development and conservation, providing the framework for how the unincorporated areas will grow through the year 2035. The five guiding principles of the Los Angeles County General Plan area are to employ smart growth, ensure community services and infrastructure are sufficient to accommodate growth, provide the foundation for a strong and diverse economy, promote excellence in environmental resource management, and provide healthy, livable and equitable communities.[61]

The Project site is designated by the County General Plan and Florence-Firestone Community Plan as Residential 18 (H18), which allows for a residential density of 0-18 dwelling units/acre. The purpose of the H18 designation is for single-family residences and two-family residences.[62] The Project site is currently zoned R-3 which allows for apartments, as well as two-family and single-family residential uses. Schools are allowed in the R-3 zone, subject to a CUP. As the Project will comply with a CUP, the proposed Project will be consistent with the currently designated land use and zoning for the site.

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[61] Los Angeles County General Plan, Adopted October 6, 2015.

[62] Los Angeles County Department of Regional Planning, Florence-Firestone Community Plan, Chapter 3: Existing Conditions, September 2019.

Project consistency with the land use goals and policies of the General Plan is evaluated in **Table 11-1, Consistency with Applicable General Plan Land Use Element Policies.**

**Table 11-1**
**Consistency with Applicable General Plan Land Use Element Policies**

| Goal/Policy | Consistency Analysis |
|---|---|
| **Goal LU 4: Infill development and redevelopment that strengthens and enhances communities.** | |
| **Policy LU 4.1:** Encourage infill development in urban and suburban areas on vacant, underutilized, and/or brownfield sites. | **Consistent.** The Project will redevelop an underutilized infill site currently occupied by a vacant asphalt parking lot with a two-story 34,044 SF school building, associated subsurface parking garage, landscaping and multiple playground areas. |
| **Goal LU 5: Vibrant, livable and healthy communities with a mix of land uses, services and amenities.** | |
| **Goal LU 5.4:** Encourage community-serving uses, such as early care and education facilities, grocery stores, farmers markets, restaurants, and banks to locate near employment centers. | **Consistent.** The proposed Project will develop an existing vacant parcel into the Kindergarten (K) through 8th grade KIPP Academy LA Ignite Academy school building and campus, which will be designed to accommodate 600 students in 24 classrooms. The proposed public charter school will serve the community with education facilities. |
| **Goal LU 10: Well-designed and healthy places that support a diversity of built environments.** | |
| **Policy LU 10.3:** Consider the built environment of the surrounding area and location in the design and scale of new or remodeled buildings, architectural styles, and reflect appropriate features such as massing, materials, color, detailing or ornament. | **Consistent.** The proposed Project will redevelop an infill, relatively flat site, currently occupied by a vacant asphalt parking lot. The surrounding area is fully developed with existing one and two-story residential and light manufacturing structures, as well as landscaping trees and shrubs. As the proposed school building will have a maximum height of two-stories or 35 feet, the building height will be consistent with the surrounding area and underlying zoning standards. In addition, the Project will utilize neutral and non-obtrusive materials and colors for the building exterior, which will match the character of the surrounding neighborhood. |
| **Policy LU 10.4:** Promote environmentally-sensitive and sustainable design. | **Consistent.** The Project will be required to implement sustainable building and design practices pursuant to the current State and County building codes as well as the California Green Building Code's mandatory requirements. These codes provide standards for building design, materials, fixtures, and construction techniques to reduce energy and water use and disposal of waste materials to promote environmentally sensitive and sustainable design. Shading overhangs have been added on second floor south facing windows to lower the air conditioning mechanical load during warm seasons. The Project will include 3 EVCS within the parking area to promote |

| | |
|---|---|
| | emissions reductions. In addition, the Project will include 100 short term bike parking spots and 3 long term bike parking spots and to encourage alternative modes of transportation. The Project will provide additional parking spaces than what is required by the LACC.<br>To reduce the heat island effect, the proposed building has introduced a white cool roof, low albedo reflective paving, large canopy street trees, and exterior shade structures. The roof will also contain infrastructure for future photovoltaic panel installation. The landscape design has taken into consideration biodiversity and water conservation through low water use, native, climate adapted plants and efficient irrigation system with weather based data. |
| **Policy LU 10.5:** Encourage the use of distinctive landscaping, signage and other features to define the unique character of districts, neighborhoods or communities, and engender community identity, pride and community interaction. | **Consistent.** As the Project is oriented towards the street, it will be screened by landscaping. Additionally, the Project will utilize neutral and non-obtrusive materials and colors for the building exterior to maintain consistency with other buildings within the area. The Project will include 47 landscaped trees, several hundred additional shrubs and vines around the perimeter of the site and an 8' high wrought iron fence with perforated panels and vines to improve the aesthetics of the site and buffer from adjacent residences. |
| **Goal LU 11: Development that utilize sustainable design techniques.** | |
| **Policy LU 11.1**: Encourage new development to employ sustainable energy practices, such as utilizing passive solar techniques and/or active solar technologies. | **Consistent.** The Project will contain a 2,625 square foot solar roof zone on the southern portion of the school building to provide solar reflectance pursuant to the California Green Standards Code A5.106.11.2. In addition, the Project will incorporate a white cool roof and will contain infrastructure for future photovoltaic panel installation. |
| **Policy LU 11.3:** Encourage development to optimize the solar orientation of buildings to maximize passive and active solar design techniques. | **Consistent.** As stated above, the Project will contain a 2,625 square foot solar roof zone on the southern portion of the school building to provide solar reflectance pursuant to the California Green Standards Code A5.106.11.2. |

Project consistency with the land use goals and policies of the General Plan is evaluated in **Table 11-2, Consistency with Applicable General Plan Public Services and Facilities Element Policies.**

## Table 11-2
## Consistency with Applicable General Plan Public Services and Facilities Element Policies

| Goal/Policy | Consistency Analysis |
|---|---|
| **Goal PS/F 7: A County with adequate educational facilities.** | |
| **Policy PS/F 7.2:** Proactively work with school facilities and education providers to coordinate land use and facilities planning. | **Consistent.** Compliance with a CUP will allow for the construction and operation of a public charter school within the R-3 zone. Therefore, the Project will be compatible with the current zoning and land use. Additionally, the school will serve the surrounding residential neighborhood and provide an additional public facility to the community. |
| **Policy PS/F 7.3:** Encourage adequate facilities for early care and education. | **Consistent.** The Project will provide a two-story 34,044 SF school building with 24 classrooms, associated underground garage, landscaping, multiple playground areas and an outdoor eating area to serve up to 600 students in grades K through 8th. |

Project consistency with the land use goals and policies of the Florence Firestone Community Plan is evaluated in **Table 11-3, Consistency with Applicable Florence-Firestone Community Plan Policies.**

## Table 11-3
## Consistency with Applicable Florence-Firestone Community Plan Policies

| Goal/Policy | Consistency Analysis |
|---|---|
| **Goal EJ-1: Residents are protected from harmful environmental effects.** | |
| **Policy EJ-1.4**: **Sensitive Land Uses.** Require that proposals for new sensitive land uses, such as residences, schools, senior centers, daycare centers, medical facilities, or parks incorporate adequate setbacks or other measures to minimize negative environmental and health impacts. | **Consistent.** The Project will be consistent with all applicable State and County building codes as well as the California Green Building Code's mandatory requirements, including adequate setbacks or other measures to minimize negative environmental and health impacts. |
| **GOAL CN-1: The transportation network, including bus and rail stations and corridors, are attractive, comfortable, safe, and efficient.** | |
| **Policy CN-2.4: Bicycle Amenities.** Increase convenient and safe bicycle use in Florence-Firestone by installing bicycle racks and lockers along major corridors and at locations with high levels of bicycle traffic, such as schools, parks, businesses, mixed-use housing, and transit hubs. | **Consistent.** The Project will include 100 short term bike parking spots and 3 long term bike parking spots and to ensure adequate bicycle amenities to serve the proposed school facilities. The Project will provide more additional parking spaces than what is required by the LACC. |
| **GOAL PR-5: Public agencies and private, non-profit, and community-based organizations partner to create a robust local network of parks and connect residents to regional open spaces.** | |
| **GOAL SH-2: Reduced crime and fear of crime through environmental design.** | |
| **Policy SH-2.2: Improve Pedestrian Infrastructure**. Improve pedestrian infrastructure around schools and in the public right-of-way throughout the community. | **Consistent.** The Project will place a school facility within a residential area, improving the diversity of uses that promote walking. The site is also located near existing transit to ensure walkability within the Project vicinity. |

As shown in Table 11-1, 11-2 and 11-3, the Project will be consistent with the applicable County General Plan and community plan goal and policies. As such, the Project will have a less than significant impact with regards to inconsistency to applicable County plans.

| | | | | |
|---|---|---|---|---|
| **c) Conflict with the goals and policies of the General Plan related to Hillside Management Areas or Significant Ecological Areas?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project site is not within a County designated Hillside Management Area or Significant Ecological Area. Consequently, the Project will not conflict with these plans.

## 12. MINERAL RESOURCES

| **Would the project:** | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact**. According to the County of Los Angeles General Plan, Chapter 9, Conservation and Natural Resources Element, mineral resources include commercially-viable aggregate or mineral deposits, such as sand, gravel, and other construction aggregate. The California Geological Survey identifies and maps deposits of these regionally-significant aggregate resources, and these areas are designated as Mineral Resource Zones (MRZ). In addition, mineral resources include areas appropriate for the drilling and production of oil and natural gas. The California Geologic Energy Management Division (CalGEM) has jurisdiction over on-shore subsurface oil and gas activities in California. Based on information provided by the California Geological Survey and CalGEM, the Project site is not located in an MRZ, nor is it located in an oil and gas resource area.[63] However, the Project is located approximately 1.25 miles south of an MRZ-2 zone, in a developed portion of Los Angeles County. The MRZ-2 zones are defined as areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence. Given the Project's location in a highly developed urban area, its proximity to an MRZ-2 zone in the same urban area, and small Project site size, the proposed Project would result in a less than significant impact to the loss of availability of a known mineral resource that will be of value.

| | | | | |
|---|---|---|---|---|
| **b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** Refer to response 12a. above.

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[63] Los Angeles County Department of Regional Planning, General Plan Figure 9.6, Mineral Resources, May 2014.

## 13. NOISE

| **Would the project result in:** | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the County General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies?** | ☐ | ☒ | ☐ | ☐ |

**Less Than Significant Impact with Mitigation Incorporated.**

### Existing Conditions

The primary existing noise sources in the Project vicinity are traffic on local roadways, freight trains from the Union Pacific Railroad, light rail trains from the Metro Blue Line, and industrial noise such as truck loading and unloading at the industrial building to the east of the Project site. As discussed later in this section, traffic noise modeling using Federal Highway Administration Traffic Noise Model 2.5 (FHWA TNM 2.5) shows that existing traffic noise levels in the Project vicinity reach 58.6 dBA Community Noise Equivalent Level (CNEL) near the intersection of Maie Avenue and 81st Street and reach 58.7 dBA CNEL near the intersection of Maie Avenue and 82nd Street. The nearest sensitive receptors are the adjacent homes to the west and northwest along East 81st Street and East 82nd Street. Other nearby sensitive receptors include residences to the north across East 81st Street and south across East 82nd Street.

### Construction

Section 12.08.440 of the County Code of Ordinances prohibits construction that will create a noise disturbance across a residential or commercial real-property line at any time on Sundays or holidays or from 7:00 p.m. to 7:00 a.m. on other days. This section also establishes maximum construction noise levels at various receiving land uses. During the specified daytime weekday hours, the maximum hourly noise level for single-family residences is 75 dB Leq for mobile equipment and for stationary equipment the maximum noise hourly level is 60 dB Leq.

The Construction Noise Handbook prepared by the Federal Highway Administration (FHWA) includes a national database of construction equipment noise levels. The FHWA uses these reference noise levels in the Roadway Construction Noise Model. **Table 13-1, Construction Equipment Noise Levels**, identifies maximum (Lmax) and average (Leq) noise levels associated with the quantity and type of common construction equipment to be used. Table 13-1 lists the types of equipment expected for use in project construction and identifies the noise level for each individual piece of equipment at a 50-foot distance from the equipment.

## Table 13-1
## Construction Equipment Noise Levels

| Phase | Quantity and Equipment Type [1] | Type | $L_{max}$ at 50 ft (dBA) [2, 3] | Usage Factor (U.F.) [4] | Hourly $L_{eq}$ at 50 ft (dBA) |
|---|---|---|---|---|---|
| Demolition | 1 Loader | Mobile | 79 | 40 | 75 |
| Grading | 1 Dozer | Mobile | 82 | 40 | 78 |
| | 1 Drill Rig | Mobile | 79 | 20 | 72 |
| | 1 Excavator | Mobile | 81 | 40 | 77 |
| | 1 Loader | Mobile | 79 | 40 | 75 |
| Building Construction | 1 Crane | Stationary | 81 | 16 | 73 |
| | 1 Forklift | Mobile | 75 | 20 | 68 |
| | 1 Generator Set | Stationary | 81 | 50 | 78 |
| | 1 Backhoe | Mobile | 78 | 40 | 74 |
| | 3 Welders | Mobile | 74 | 40 | 70 |
| | 1 Pump | Mobile | 81 | 50 | 78 |
| | 1 Other Material Handling Equipment | Mobile | 83 | 40 | 79 |
| | 1 Man Lift | Mobile | 75 | 20 | 68 |
| Paving | 1 Cement/Mortar Mixer | Mobile | 80 | 50 | 77 |
| | 1 Pavers | Mobile | 77 | 50 | 74 |
| | 1 Paving Equipment | Mobile | 83 | 20 | 76 |
| | 1 Roller | Mobile | 80 | 20 | 73 |
| | 1 Tractor/Loader Backhoe | Mobile | 79 | 40 | 75 |
| Architectural Coating | 1 Air Compressor | Stationary | 78 | 40 | 74 |

[1] Equipment Mix confirmed by KLARE 15, LLC, October 2020.
[2] Lmax levels are for individual equipment pieces.
[3] Source: Federal Highway Administration, Construction Noise Handbook, 2006, Ch. 9, Construction Equipment Noise Levels and Ranges.
[4] Usage Factor (U.F.) is the portion of time equipment is operating at full power

As shown in Table 13-1, the individual piece of equipment for Project construction that could generate the highest noise level at 50 ft is other material handling equipment (such as a gradall) with a maximum noise level of 83 dBA Lmax and an hourly average noise level 79 dBA Leq. Construction proceeds in phases such as demolition, grading, building construction, paving, and architectural coating, with each phase involving the use of different types of construction equipment. Contractors will use the types of equipment listed in Table 13-1 only as required for each phase rather than all at once. Furthermore, decibels are logarithmic units; therefore, sound levels cannot be added by ordinary arithmetic means. When the noise level of two sources is equal, the resulting noise level increase 3 dB greater than the noise level of one source.

The noise levels shown in Table 13-1 are based on reference levels associated with a distance of 50 feet from the source. **Table 13-2, Mobile Construction Noise Levels at Nearest Sensitive Receptor**, shows the composite average noise levels at the adjacent single-family residences to the west and northwest for mobile equipment for each phase operating at the center of construction activity. Because not all equipment for each phase would be in use at once, the two loudest pieces of equipment for each phase were summed to calculate composite average noise levels, based on the individual equipment noise levels from Table 13-1. **Table 13-3,**

**Stationary Construction Noise Levels at Nearest Sensitive Receptor** shows the average noise levels at the nearest sensitive receptor for stationary equipment operating at the center of construction activity, based on the information in Table 13-1. The two pieces of stationary equipment will not operate simultaneously. All other sensitive receptors will experience lower levels of construction noise because they are further away and construction noise levels would be less than significant at those locations.

**Table 13-2**
**Mobile Construction Noise Levels at Nearest Sensitive Receptor**

| Phase | Equipment | Distance from Center of Construction Activity (feet) [1] | Leq (dBA) [2] | Composite Leq (dBA) [3] |
|---|---|---|---|---|
| Demolition | Loader | 80 | 71 | 71 |
| Grading | Dozer | 80 | 74 | **76** |
| | Excavator | | 73 | |
| Building Construction | Pump | 115 | 71 | 74 |
| | Other Material Handling Equipment | | 72 | |
| Paving | Cement/Mortar Mixer | 80 | 73 | 75 |
| | Paving Equipment | | 72 | |

Source: Envicom Corporation, December 2020.

[1] Distance from geometric centroid of construction area for a given phase of construction to the structure of the nearest residence.

[2] Noise levels for individual equipment.

[3] Bold noise levels exceed the County's construction noise standard of 75 dB Leq for mobile construction equipment.

**Table 13-3**
**Stationary Construction Noise Levels at Nearest Sensitive Receptor**

| Phase | Equipment | Distance from Center of Construction Activity (feet) [1] | Leq (dBA) [2] |
|---|---|---|---|
| Building Construction | Generator | 115 | **71** |
| Architectural Coating | Air Compressor | 115 | **67** |

Source: Envicom Corporation, December 2020

[1] Distance from geometric centroid of construction area for a given phase to the structure of the nearest residence.

[2] Bold noise levels exceed the County's construction noise standard of 60 dB Leq for stationary construction equipment.

As shown on Tables 13-2 and 13-3, predicted noise levels for this equipment will exceed the County's noise standards for mobile equipment during the grading phase and stationary equipment during the building construction and architectural coating phases at the single-family residences to the northwest and west. Therefore, with incorporation of MM **NOI-1**, which incorporates either early construction of the project's proposed CMU wall at the western and northwestern project boundary or implementation of a temporary perimeter noise barrier at the western and northwestern project boundary and implementation of temporary barriers around stationary equipment, noise levels will be reduced to the performance standards of the County noise control ordinance.

Construction noise levels from mobile equipment during grading will be reduced by MM NOI-1 to an average of 72 dBA Leq or lower at the nearest residences. Construction noise levels from stationary equipment will be reduced by the barrier to 59 dBA Leq and 55 dBA Leq from generators and air compressors, respectively. These noise levels will not exceed the County's construction noise standards of 75 dBA Leq for mobile equipment and 60 dBA Leq for stationary equipment. Therefore, construction noise impacts will be less than significant with the implementation of MM NOI-1.

## Operation: Traffic

Upon completion, the Project-generated vehicle trips will cause an incremental increase in noise levels on the streets throughout the Project area. Typically, doubling of traffic volume (depending on vehicle types and time of day) is required to result in a 3 dBA increase in noise, which is the level at which changes are barely perceptible to the human ear. According to the Project transportation consultant, Linscott, Law & Greenspan, Engineers, the Project will generate 1,191 average daily trips.[64] The Los Angeles County Department of Public Works counted traffic on Maie Avenue south of Florence Avenue in 2015, 81st Street east of Miramonte Boulevard in 2019, and 82nd east of Compton Avenue in 2008.[65] A one percent annual growth rate was applied to adjust these traffic volumes to the existing year (2020) and the opening year (2022). Traffic noise levels on the local roadway segments were modeled in TNM 2.5. Because TNM 2.5 produces results in hourly Leq levels, separate daytime, evening, and nighttime runs were modeled so that CNEL could be calculated. The vehicle mix on local roadways was based on the vehicle mix used in the traffic noise modeling in the County of Los Angeles General Plan EIR.[66] It was assumed that 60 percent of the total one-way Project trips will potentially be added to Maie Avenue, with 50 percent coming from the one-way right-turn only exit driveway on Maie Avenue and the remaining 10 percent coming to or from the parking structure on 82nd street. Also, it was assumed that 50 percent of the Project's total one-way trips will travel on 81st Street west of the project driveway because of the one-way right-turn only entrance driveway. Additionally, it was conservatively assumed that 10 percent of the Project trips will travel on 82nd street coming to or from the parking structure on 82nd street. Finally, it was assumed that the Project vehicle trips will be automobile trips occurring during the daytime. After modeling and calculation for each roadway segment was conducted, the worst-case noise levels (which would be in the vicinity of both Maie Avenue south of Project Driveway and 82nd Street east of Compton Avenue) were calculated. **Table 13-4, Existing Year Project-Related Traffic Noise Level** and **Table 13-5, Opening Year Project-Related Traffic Noise Level** show the Project-related traffic noise increase in the existing (2020) year and opening (2022) year.

**Table 13-4**
**Existing Year Project-Related Traffic Noise Level**

| Roadway Segment(s) | Existing (2020) Average Daily Trips (ADT) | Existing (2020) Noise Level (dBA CNEL) | Existing (2020) With Project ADT | Existing (2020) With Project Noise Level (dBA CNEL) | Existing Year Project-Related Noise Increase (dBA CNEL) |
|---|---|---|---|---|---|
| Maie Avenue from Florence Avenue to Project Driveway | 2,857 | 58.4 | 2,916 | 58.4 | 0.0 |
| Maie Avenue south of Project Driveway | 2,857 | 58.4 | 3,512 | 58.7 | 0.3 |
| 81st Street from Miramonte Boulevard to Project Driveway | 297 | 44.8 | 892 | 47.2 | 2.4 |
| 81st Street from Project Driveway to Maie Avenue | 297 | 44.8 | 297 | 44.8 | 0.0 |
| 82nd Street east of Compton Avenue | 415 | 47.0 | 534 | 47.3 | 0.3 |

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[64] Linscott, Law & Greenspan, Engineers, KIPP Ignite Academy – Transportation Impact Analysis, October 20, 2020.

[65] Los Angeles County Department of Public Works, Machine Traffic Count Volumes. Accessed on July 20, 2020 at https://dpw.lacounty.gov/tnl/trafficcounts/.

[66] Los Angeles County, General Plan Update Draft Environmental Impact Report, State Clearinghouse No. 2011081042, Appendix K: Noise Data, June 2014.

| | | | | | |
|---|---|---|---|---|---|
| Vicinity of Maie Avenue south of Project Driveway and 82nd Street east of Compton Avenue[1] | N/A | 58.7 | N/A | 59.0 | 0.3 |

Source: Linscott, Law & Greenspan, Engineers, KIPP Ignite Academy – Transportation Impact Analysis, October 20, 2020; Los Angeles County Department of Public Works, Machine Traffic Count Volumes; Envicom Corporation, October 2020.
Note: Noise levels shown are 50 feet from the centerline of the roadway.
[1] Noise levels in vicinity of Maie Avenue south of Project Driveway and 82nd Street east of Compton Avenue are the calculated sum of modeled noise levels for the two roadway segments.

## Table 13-5
## Opening Year Project-Related Traffic Noise Level

| Roadway Segment(s) | Opening Year (2022) ADT | Opening Year (2022) Noise Level (dBA CNEL) | Opening Year (2022) With Project ADT | Opening Year (2022) With Project Noise Level (dBA CNEL) | Opening Year Project-Related Noise Increase (dBA CNEL) |
|---|---|---|---|---|---|
| Maie Avenue from Florence Avenue to Project Driveway | 2,914 | 58.4 | 2,974 | 58.4 | 0.0 |
| Maie Avenue south of Project Driveway | 2,914 | 58.5 | 3,569 | 58.7 | 0.2 |
| 81st Street from Miramonte Boulevard to Project Driveway | 303 | 44.9 | 898 | 47.3 | 2.4 |
| 81st Street from Project Driveway to Maie Avenue | 303 | 44.9 | 303 | 44.9 | 0.0 |
| 82nd Street east of Compton Avenue | 423 | 47.2 | 542 | 47.6 | 0.4 |
| Vicinity of Maie Avenue south of Project Driveway and 82nd Street east of Compton Avenue[1] | N/A | 58.8 | N/A | 59.0 | 0.2 |

Source: Linscott, Law & Greenspan, Engineers, KIPP Ignite Academy – Transportation Impact Analysis, October 20, 2020; Los Angeles County Department of Public Works, Machine Traffic Count Volumes Envicom Corporation, October 2020.
Note: Noise levels shown are 50 feet from the centerline of the roadway.
[1] Noise levels in vicinity of Maie Avenue south of Project Driveway and 82nd Street east of Compton Avenue are the calculated sum of modeled noise levels for the two roadway segments.

As shown on Tables 13-4 and 13-5, these noise level increases will be less than 3 dBA over ambient and will not be readily perceptible to the human ear in an outdoor environment. In addition, in the vicinity of the intersection of Maie Avenue and 82nd Street, where combined with Project traffic noise levels will be highest, the existing year (2020) noise level will be 58.7 dBA without the Project and 59.0 dBA with the Project, based on the modeled noise levels on the two roadways, resulting in a Project-related noise increase of 0.3 dBA. In this same location, the opening year (2022) noise level will be 58.8 dBA without the Project and 59.0 dBA with the Project, resulting in a Project-related noise increase of 0.2 dBA. These noise level increases will also be less than 3 dBA. Therefore, Project-related traffic noise level increases will not be significant.

## Operation: HVAC

For operational stationary noise sources located proximate to residential uses, Los Angeles County has adopted a detailed Noise Control Ordinance, which is codified in Chapter 12.08, Noise Control, of Title 12, Environmental Protection, of the Los Angeles County Code. Noise from one land use crossing the property line of an adjacent property is regulated by Section 12.08.390 of the Los Angeles County Code. These standards are expressed in terms of a percentile noise level which is the noise level allowed for up to a given number if minutes in any hour. The pertinent exterior noise standards for noise affecting residential properties for a cumulative period of more than 30 minutes in one hour ($L_{50}$) is 50 dBA in the daytime (7:00 a.m. to 10:00 p.m.) and 45 dBA in the nighttime (10:00 p.m. to 7:00 a.m.)

The Project proposes 29 rooftop HVAC package units of varying size and two split system condensing units. Based on the noise levels specified in the manufacturer's specification sheets for the HVAC equipment anticipated by the Project architect, each unit will produce noise ranging from 50 dBA to 83 dBA at 3.3 feet. This analysis assumes all roof-mounted HVAC components are in simultaneous use as a "worst-case" scenario, although actual HVAC use will depend on weather conditions and time of day. Given that decibels are expressed in logarithmic units, they cannot be added or subtracted arithmetically. To calculate the increase in ambient noise from the combined noise of more than one piece of equipment, decibels must be converted from logarithmic units to linear units.

As noted earlier, each unit will produce noise ranging from 50 dBA to 83 dBA at 3.3 feet. Addition of the reference noise levels for the HVAC components will result in a composite reference noise level of 88.9 dBA at a distance of 3.3 feet, a value that is used to calculate the impact at greater distances. Attenuation for the proposed HVAC system was derived by calculating the noise level in dB depending on distance based on specification sheets from the HVAC equipment manufacturer (using the formula, $L_2 = L_1 - 20 \bullet \log (r_2 / r_1)$; where: $L_2$ = noise level at a given distance, $L_1$ = reference noise level, $r_1$ = reference distance, and $r_2$ = given distance).

The equation used provides a distance attenuation of 29.2 dBA at an averaged distance of 95 feet, relative to the reference distance of 3.3 feet. In addition, the parapet and roofline of the building will provide a barrier attenuation of 15 dBA based on the FTA methodology for calculation of barrier insertion loss. As shown of **Table 13-6 HVAC Noise Levels at the Nearest Receptor**, the operational noise level from the proposed HVAC units will be 44.7 dBA Leq at the property line of the nearest sensitive receptor after attenuating for distance and barrier attenuation for the roofline and parapet (i.e., 88.9 dBA – 29.2 dBA – 15 dBA = 44.7 dBA). A noise level of 44.7 dBA Leq will not exceed the County's daytime and nighttime noise standards of 50 dBA and 45 dBA, respectively. Although the Project is not anticipated to exceed County noise standards, at the request of the County Department of Public Health,[67] the Project would implement MM NOI-2, which would provide rooftop sound attenuation barriers for HVAC equipment. As such, operational noise levels from HVAC will be less than significant with mitigation incorporated.

**Table 13-6**
**HVAC Noise Levels at the Nearest Receptor**

| Composite Reference HVAC Noise Level at 3.3 feet (dBA)[1,2] | Average Distance to Nearest Sensitive Receptor (ft) | Distance Attenuation (dBA) | Parapet/Roofline Reduction (dBA) | Noise Level (dBA Leq) |
|---|---|---|---|---|
| 88.9 | 95 | 29.2 | 15 | 44.7 |

[1] York, Product Specifications for ZJ120N18, ZE060K10, and ZE036K05.
[2] Samsung, Product Specifications for AC024JXADCH/AA.

### Operation: Bell and Loudspeaker

Pursuant to Section 12.08.570(D)(2) of the Noise Control Ordinance, stationary nonemergency signaling devices are exempt from the Exterior Noise Standards and this exemption is regulated by the prohibitions of Part 4 of the noise ordinance which deals with specific noise restrictions. Specifically, Part 4, 12.08.510 (A) states, “Sounding or permitting the sounding of any electronically amplified signal from any stationary bell, chime, siren, whistle, or similar device intended primarily for nonemergency purposes, from any place, for more than 10 consecutive sections in any hourly period is prohibited.” The Project would be required to comply with the Noise Control Ordinance related to stationary nonemergency signaling devices. However, per Section 12.08.570 of the Noise Control Ordinance, outdoor activities that are conducted on public or private school grounds, including but not limited to school athletic and entertainment events, are exempt from the aforementioned provisions of the Noise Control Ordinance (Chapter 12.08, Noise Control, of Title 12, Environmental Protection, of the Los Angeles County Code). This exemption does not apply to construction activities.

It is assumed that the school will not have a mechanical bell and will instead use the loudspeaker system. It is also assumed that loudspeakers will be placed at the four corners of the exterior of the building and that the system will typically be used for a cumulative period of one minute or less in an hour. Based on the manufacturer’s specifications, each loudspeaker will produce a noise level of 108 dBA at 4 feet. The loudspeakers on the western side of the building will be approximately 60 feet from the nearest residential building located to the west. Addition of the reference noise levels for the loudspeakers will result in a composite reference noise level of 111 dBA at a distance of 4 feet, a value that is used to calculate the impact at greater distances. At this residence, noise from the other two loudspeakers will not increase the composite noise level from the loudspeaker system because of greater distance and shielding from the structure of the building. At a distance of 60 feet, this noise level will be attenuated by 23.5 dBA to a level of 87.5 dBA (i.e., 111 dBA – 23.5 dBA = 87.5 dBA). The Project’s proposed 8 ft CMU wall will not provide substantial noise reduction due to the mounted height of the loudspeakers. While a noise level of 87.5 dBA will exceed the County’s daytime exterior residential noise standard of 70 dBA for events occurring for a cumulative period of less than one minute per hour, the loudspeaker will be exempt per Section 12.08.570 of the Noise Ordinance. Therefore, operational noise levels from the loudspeaker (which was also assumed to be used as a signaling device in lieu of a mechanical bell) will be less than significant.

### Operation: Playground Noise

As previously discussed, Section 12.08.570 of the Noise Ordinance, exempts outdoor activities that are conducted on public or private school grounds, including but not limited to school athletic and entertainment events. This exemption does not apply to construction activities. In addition, the Project’s proposed 8 ft CMU wall will reduce playground noise at the nearest residences. Therefore, noise levels from the playground will be less than significant.

### Mitigation Measure:

**NOI-1** **Temporary Construction Noise Barriers.** The Project’s proposed concrete masonry unit (CMU) wall at the western and northwestern perimeter shall be constructed prior to the grading phase of construction. The Project’s wall will provide a reduction of at least 4 dBA at the nearest residences. As an alternative to prior construction of the Project’s proposed CMU wall, a temporary construction barrier or prefabricated sound-absorbing barrier shall be placed at the western and northwestern site perimeters at the shared property lines of the adjacent

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[67] County of Los Angeles, Department of Public Health, Comments on CEQA-Initial Study KIPP Ignite Academy School Project, Case RPPL2021000118, 1628 E 81st Street Los Angeles CA 90001, February 9, 2022.

residences shall be in place during the demolition, grading, building construction, and paving phases of construction. The barrier shall be of sufficient height and length to block line of sight to the receptors. A barrier with a height of 18 feet above the existing ground level constructed of 1-inch plywood (or two layers of ½-inch plywood) or a material with a transmission loss of at least 30 dB at 500 Hertz would provide a reduction of 20 dBA at the nearest residences, even further below the required performance standards of the County noise control ordinance.

When generators or air compressors are used on site, they shall have sound mufflers in good working order and be shielded by a temporary construction barrier consisting of ¾-inch plywood or a material with a transmission loss of at least 22 dB at 500 Hertz located around the equipment and/or be surrounded by an equivalent construction grade sound blanket. The barrier shall be at least 11 feet high and no less than 4 feet taller than the top edge of the noise generator, and of sufficient length to block line of site to the adjacent residences to the west and northwest. Such a barrier will provide a reduction of 12 dBA at the nearest residences.

**NOI-2** **Rooftop HVAC Screening.** To reduce operational Heating, Ventilation and Air Conditioning (HVAC) noise levels at the nearest sensitive receptors, the Project shall construct a noise attenuation barrier or barriers on the western and northwestern portions of the project rooftop around the HVAC equipment to shield the adjacent residences to the west of the project site. The barrier(s) shall be of sufficient height to fully obscure line-of-sight from the rooftop HVAC units to the adjacent residences to the west, shall be constructed of a material with a surface density of at least 4 pounds per square foot, and shall be free of gaps to the extent feasible.

**b) Generation of excessive groundborne vibration or groundborne noise levels?** ☐ ☒ ☐ ☐

**Less Than Significant Impact with Mitigation Incorporated.** Existing sources of vibration in the Project vicinity include freight trains and light rail. Traffic, including heavy trucks traveling on a highway, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage and on-road vehicles are unlikely to generate perceptible groundborne vibration when traveling on smooth roadways.

The County Noise Control Ordinance (County Code Section 12.08.560) defines the level of human perception for groundborne vibration as a velocity of 0.01 inch per second over the range of 1 to 100 hertz and prohibits the operation of devices that create vibration above this level for an individual at or beyond the property boundary. While the County standard is arguably applicable to operational vibration levels and not construction, this analysis uses this standard to evaluate human response to construction vibration. A root-mean-square[68] motion velocity of 0.01 in/sec will be equivalent to 80 VdB, based on the FTA Transit Noise and Vibration Impact Assessment Manual. The California Department of Transportation (Caltrans) provides vibration guidelines for structural damage. For intermittent sources, the Caltrans criteria are 0.5 PPV in/sec for new residential structures and 0.3 PPV in/sec for older residential structures.

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[68] Vibratory motion is commonly described by identifying the peak particle velocity (PPV) in inches per second in/sec or root mean square (RMS) vibration velocity in the decibel scale (VdB). PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage and VdB is suitable for evaluating the potential for vibration annoyance to humans. While PPV expresses the peak velocity of a vibration signal, VdB expresses an average of the velocity of a vibration signal, typically over one second. Because vibration signals have a net arithmetic mean of zero, the RMS is used to express the average velocity of the vibration signal. The RMS signal is the square root of the average of the squared amplitude of the signal, typically over a period of one second. While RMS velocity can be expressed in inches per second, it can also be expressed in decibel notation as VdB.

Predicted vibration levels generated by construction equipment anticipated to be used on site are provided within **Table 13-7, Groundborne Vibration Damage Potential from Project Construction Equipment** and within **Table 13-8, Groundborne Vibration Annoyance Potential from Project Construction Equipment**. The Project will not operate vibratory rollers, hoe rams, or hydraulic break rams. In addition, it is not anticipated that large bulldozers will be used on site due the size of the site and the limited space for movement within the site when excavated.

**Table 13-7**
**Groundborne Vibration Damage Potential from Project Construction Equipment**

| Construction Equipment | Reference Vibration Levels at 25 ft | Vibration Levels at Nearest Off-Site Structures [1] | | Vibration Damage Impact Assessment in Peak Particle Velocity (PPV) | |
|---|---|---|---|---|---|
| | PPV, in/sec at 25 ft | Distance (ft) | PPV, in/sec | Vibration Damage Criterion | Exceedance? |
| Loaded Trucks | 0.076 | <10 | >0.30 | 0.3 | Yes |
| Small Bulldozer | 0.003 | <10 | >0.01 | >0.01 | No |

Data Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.

[1] The nearest off-site structures, located less than 10 feet from the western and northwestern Project construction boundaries, are the residential garages at 1624 E 81st Street, 1616 E 81st Street, and 1615 E 82nd Street which were built in 1926, 1926, and 1944.

[2] The Caltrans vibration damage criterion is 0.3 PPV in/sec for older residential structures.

**Table 13-8**
**Groundborne Vibration Annoyance Potential from Project Construction Equipment**

| Construction Equipment | Reference Vibration Levels at 25 ft | Vibration Levels at Nearest Residences | | Vibration Annoyance Impact Assessment | |
|---|---|---|---|---|---|
| | VdB at 25 ft | Distance (ft) | Vibration Velocity Level (VdB) | Vibration Annoyance Threshold (VdB) | Exceedance? |
| Loaded Trucks | 86 | 10 | 98 | 80 | Yes |
| Small Bulldozer | 58 | 10 | 70 | 80 | No |

Data Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.

[1] The nearest off-site inhabited structures to the Project construction boundary are the residences at 1624 E 81st Street and 1615 E 82nd Street, which are both located approximately 10 feet away to the west and northwest.

As shown in Table 13-7 and Table 13-8, predicted vibration levels for some of the equipment shown will exceed the Caltrans structural damage criteria and the County's human response threshold at the sensitive receptors. To mitigate this impact to less than significant, the Project will implement MM **NOI-3,** which requires construction equipment vibration restrictions.

With the implementation of MM **NOI-3,** vibration levels at the nearest buildings will not exceed the Caltrans structural damage criteria of 0.3 PPV in/sec for older residential structures and vibration levels at the nearest residences will not exceed the human response threshold of 80 VdB. Therefore, no construction vibration impacts will occur with mitigation incorporated.

**Mitigation Measure:**

**NOI-3** **Construction Equipment Vibration Restrictions:**

Within the Project site, loaded trucks shall not operate within 40 feet of any occupied residences or within 10 feet of any off-site building.

| | | | | |
|---|---|---|---|---|
| **c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Compton/Woodley Airport, located at 901 W Alondra Blvd in Compton, is approximately 5.1 miles south of the Project site and is the closest airport to the site. The Project site is not located within the Airport Influence Area or 65 dBA CNEL noise contour.[69,70] Therefore, the Project will have no impact associated with the exposure of people residing or working in the Project area to excessive airport or private aircraft related noise levels. No mitigation measures are required.

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[69] Los Angeles County Airport Land Use Commission, Los Angeles County Airport Land Use Plan, December 1 2004. Accessed on June 26 2020 at http://planning.lacounty.gov/aluc/airports.

[70] Los Angeles County, General Plan 2035, Figure 11.1 Airport Noise Contours. Accessed on June 26 2020 at http://planning.lacounty.gov/generalplan/generalplan.

## 14. POPULATION AND HOUSING

| Would the project: | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Project will construct a school that will serve the existing population. Buildout of the Project will require faculty but given the school's size of only 24 classrooms, the potential population growth that will occur from new employment opportunities is minimal. The Project is within the Florence-Firestone Community in unincorporated Los Angeles County, which had an estimated population of 64,334 people in 2016 and is projected to have a total of 65,742 people by 2021.[71]

The Project will construct a new public charter school to serve the existing school age population in the area. Population generation from employees at the school will be minimal, and the current combined enrollment at the existing school in its temporary location is 383 students.[72] The maximum enrollment for the Project will be 600 students, resulting in a net increase of 217 students to be served, compared to the existing school. As students are expected to come from the surrounding communities, the proposed school is not likely to cause an increase in population growth.

Additionally, given the density of the area in which the Project will be located in combination with the fact that the area is surrounded by other high-density areas, it will not be unreasonable to assume that employment could come from the existing or neighboring communities, thus not inducing population growth. Even if it was assumed that there will be an increase in population due to approximately 48 employees (comprised of teachers, counselors, school administrators, after school coordinators and instructional assistants)[73] and their families (assumed at 3 residents to a household)[74] moving to the local area, which equates to 144 additional people, it will constitute less than one percent of the existing population in the Florence-Firestone Community. Therefore, impacts to inducing substantial population growth will be less than significant.

| | | | | |
|---|---|---|---|---|
| **b) Displace substantial numbers of existing people or housing, especially affordable housing, necessitating the construction of replacement housing elsewhere?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** The Project site is located on currently vacant lot within the County. As the Project site is currently vacant, it will not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, the Project will have no impact.

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[71] County of Los Angeles, Florence-Firestone Community Plan, September 2019 Final.

[72] Dominguez, Kathy, EDFAC Group, Email Correspondence with Envicom Corporation on July 7, 2020.

[73] Dominguez, Kathy, EDFAC Group, Email Correspondence with Envicom Corporation on November 9, 2020.

[74] United States Census, Quick Facts, Los Angeles County, Persons per household, 2014-2018, Accessed on October 27, 2020 at: https://www.census.gov/quickfacts/losangelescountycalifornia.

## 15. PUBLIC SERVICES

| | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Would the project create capacity or service level problems, or result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:** | | | | |
| **Fire protection?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Project will be served by the LACoFD. The nearest fire station to the Project site is LACoFD Station 164, which is located at 6301 Santa Fe Avenue in Huntington Park, approximately 2.1 miles northeast of the Project site or seven minutes in typical traffic conditions.[75] This distance is close enough for the LACoFD to be within the current standard response time for fire service in an urban area, which is 5 minutes or less, as stated in the Los Angeles County General Plan Update Draft EIR.[76] The second closest station is Station 65 which is located at 1801 E. Century Boulevard, approximately 1.6 miles from the Project site or 7 minutes in typical traffic conditions.

LACoFD has reviewed and approved the site plan. In addition, the Project will be required to comply with all applicable regulations, codes and LACoFD site plan review requirements that address building construction, site access, road widths, fire truck turnaround areas, water conveyance, fire flow and pressure, and fire hydrant number and placement. The Project will be equipped with an automatic fire extinguishing system that will be approved by the County plumbing division prior to installation, and fire sprinklers will be located throughout the building. Compliance with regulations and implementation of Project design features for fire suppression will reduce the need for additional fire services. Therefore, the Project will not require the provision for new or physically altered fire services. Impacts to fire protection services will be less than significant.

| | | | | |
|---|---|---|---|---|
| **Sheriff protection?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Project will be served by the Los Angeles County Sheriff's Department (LASD) Century Station, which serves the areas of Florence/Firestone, Walnut Park, Willowbrook, and Athens Park.[77] The Century Station is located at 11703 S. Alameda Street in Lynwood, which is approximately 2.8 driving miles from the Project site. The Century Station serves more than 200,000 residents within a 13 square mile area.[78]

The LASD maintains mutual aid agreements with other County and State law enforcement agencies such that additional support may be requested and received as needed to respond to emergencies or natural disasters.[79]

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[75] County of Los Angeles Fire Department, Comments on Case RPPL202100118, November 15, 2021.

[76] Los Angeles County, General Plan Update Draft Environmental Impact Report, State Clearinghouse No. 2011081042, June 2014.

[77] Los Angeles County Sheriff's Department, Century Station, Accessed on June 22, 2020 at: http://shq.lasdnews.net/pages/patrolstation.aspx?id=CEN.

[78] Los Angeles County Sheriff's Department, Sheriff's Department – Century Station, About Us, Accessed on June 22, 2020 at: http://shq.lasdnews.net/content/uoa/CEN/CEN_AboutUs.pdf.

[79] County of Los Angeles, Los Angeles County Operational Area Emergency Response Plan, Approved February 17, 1998.

According to the General Plan EIR, LASD staff has indicated that an officer-to-population ratio of one officer to every 1,000 residents provides the desired Level of Service (LOS) for its service area. Completion of the Project will not generate a significant population increase as only 24 classrooms will be constructed and will primarily serve students within the surrounding areas. In addition, the Project is located within a highly dense area surrounded by freeways and employees will likely reside in the surrounding areas without increasing population. The Project will consist of multiple design features that will improve the security and reduce the impact to sheriff protection services, including a block and wrought iron fence around the Project site, multiple vehicular and pedestrian gates that will be closed during the school day, a 24-7 monitored security alarm system, security cameras, commercial grade doors and locks, and bike lockers. The LASD also coordinated with the California Highway Patrol (CHP) to increase the presence of law enforcement within the Florence-Firestone Community.[80] Given the small increase in population and small effect to service ratio, the provision of new sheriff facilities will not be required. Therefore, the Project will have a less than significant impact regarding sheriff protection services.

**Schools?** ☐ ☐ ☐ ☒

**No Impact.** The Project will construct a new school, and the impacts associated with the expansion, demolition, and building of the KIPP Academy school facilities are evaluated under other sections of this IS/MND, and mitigations measures, if necessary, are disclosed herein. Further, the Project will provide school capacity (over and above that which is being replaced), which will reduce the need for additional schools within the area and thus no further physical impacts to building new facilities elsewhere. Therefore, the Project will have no impact to school service levels.

**Parks?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** The Project will generate a minimal, if any, increase of population from employees at the school. The Florence-Firestone Community has a total of five parks accounting for 70 acres of designated park space. The two closest parks to the Project site are Franklin D. Roosevelt Park, which is less than 0.5 miles away, and Colonel Leon H. Washington Park, which is less than a mile away. Franklin D. Roosevelt Park is 24.3 acres and Colonel Leon H. Washington Park is 15.7 acres.[81] Given the area is fully urbanized with nearby parks, and that the Project is a school with playground facilities, the Project will have a less than significant impact to service ratios of parks in the area.

**Libraries?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** There are two Los Angeles County Public Libraries within one mile of the Project site.[82] The Graham Library is on approximately 0.8 miles southeast of the Project site on Firestone Boulevard and the Florence Express Library is approximately 0.4 miles northeast of the Project site on Graham Avenue in Franklin D. Roosevelt Park. Given that there are two libraries within a mile of the Project site and the small potential increase in population, the impacts to public library service levels and capacity will be less than significant.

**Other public facilities?** ☐ ☐ ☐ ☒

**No Impact.** There are no other public facilities that were not accounted for that will be impacted by the Project. Therefore, the Project will have no impact.

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[80] County of Los Angeles, Florence-Firestone Community Plan, November 2017 Draft.

[81] Los Angeles County, General Plan 2035, Chapter 10: Parks and Recreation Element Resources, Adopted October 6, 2015.

[82] Los Angeles County Library, Library Locator, Accessed on June 22, 2020 at: https://lacountylibrary.org/library-locator/.

## 16. RECREATION

| | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact**. The Project will generate a minimal increase in population as the school will serve the existing school aged population and therefore may marginally increase the use of existing neighborhood/regional parks or other recreation facilities. The Los Angeles County Department of Parks and Recreation will serve the Project site, and multiple parks exist within two miles of the Project, including Franklin D. Roosevelt Park, Colonel Leon H. Washington Park, El Parque Nuestro, Walnut Nature Park, Mary M, Bethune Park, and Ted Watkins Memorial Park. Existing park facilities include amenities such as community centers, gymnasiums, sports areas, barbeque pits, swimming pools, children's play areas and picnic tables.[83]

As shown in the General Plan, the Project is located within the service radius of at least one neighborhood park,[84] community regional park, and regional park.[85] In addition, the Project will include recreation facilities on-site, such as three play yards and an outdoor eating area, which will reduce the impact on parks within the area. The Project's minimal expected increase in population (as discussed further in Section 14, Population and Housing), in combination with the proposed recreational facilities, will limit impacts to existing parks and recreational facilities. The Project will therefore have a less than significant impact with respect to substantial physical deterioration of parks or recreational facilities.

| | | | | |
|---|---|---|---|---|
| **b) Does the project include neighborhood and regional parks or other recreational facilities or require the construction or expansion of such facilities which might have an adverse physical effect on the environment?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Project will construct recreational facilities for students on-site including three play yards and an outdoor eating area. As the Project will serve the existing community and the multiple play yards and outdoor area will provide recreational facilities for students, the Project's on-site recreational facilities will reduce impacts to existing recreational facilities. A minimal population increase may occur due to school employees moving into the Project area. The marginal population increase will not require the construction or expansion of additional park facilities and therefore the Project will have a less than significant impact to create an adverse physical effect on the environment.

| | | | | |
|---|---|---|---|---|
| **c) Would the project interfere with regional open space connectivity?** | ☐ | ☐ | ☐ | ☒ |

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[83] Los Angeles County Department of Parks and Recreation, Find a Park, Accessed on June 22, 2020 at: https://parks.lacounty.gov/.

[84] Los Angeles County, Department of Regional Planning, General Plan 2035, Community, Neighborhood and Pocket Park Service Radius Map, Figure 10.3, May 2014.

[85] Los Angeles County, Department of Regional Planning, General Plan 2035, Community Regional and Regional Park Service Radius Map, Figure 10.2, May 2014.

**No Impact.** The Project site is located in an urban, developed area within the City of Los Angeles. Parks within the Project vicinity will not contribute to regional open space connectivity. As shown in the General Plan, the Project does not contribute to nor is located near any regional wildlife linkages and will not allow for wildlife movement.[86] Therefore, the Project will not interfere with regional open space connectivity and no impact will occur.

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[86] Los Angeles County, Department of Regional Planning, General Plan 2035, Regional Habitat Linkages, Figure 9.2, May 2014.

## 17. TRANSPORTATION

| Would the project: | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Conflict with an applicable program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?** | ☐ | ☐ | ☒ | ☐ |

The following transportation analysis is primarily based on the KIPP Ignite Academy – Transportation Impact Analysis (TIA) memorandum from Linscott, Law, Greenspan, Engineers, dated October 1, 2021 and included as **Appendix I-1**.

**Less Than Significant Impact.** As discussed in the Project TIA memorandum, the Project is consistent with the 2020-2045 SCAG Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) adopted in September 2020. As the Project is an infill development located within one-half mile of a Major Transit Stop, will facilitate multimodal transportation by providing more than the required number of bicycle parking spaces, and is located within an area with excellent pedestrian infrastructure, the Project is consistent with SCAG's core strategies for achieving regional greenhouse gas reduction goals, and the overall goals of SCAG RTP/SCS by encouraging infill development and being located within a one-half mile radius of a major transit stop or high-quality transit corridor to reduce vehicle miles travelled. Additionally, consistency with the General Plan must be shown to show consistency with the SCAG RTP/SCS. The Project's CUP Burden of Proof (BOP) Statement provides a detailed analysis of the Project's consistency with the General Plan. The Project is consistent with the goals of the General Plan, as it creates opportunities for infill development, will not adversely affect the health, peace, comfort, or welfare of persons residing or working in the surrounding area, is located on a site that is adequate in shape and size, and is adequately served by the local transportation network. The Project site is located within a Transit Oriented District, according to the County Department of Regional Planning.[87] As previously discussed, the Los Angeles County Metro provides bus service in the Project vicinity at via multiple bus lines and light rail, including the 55/355 Bus Line, Compton & 81st Street stop; 111 Bus Line, 254 Bus Line, and the Blue Line light rail line, Firestone station stop. In addition, the Project will not impact pedestrian facilities and will therefore not conflict with the Pedestrian Master Plan.[88] Lastly, the Project will include 100 short term bike parking spots and 3 long term bike parking spots and will therefore be consistent with the Bicycle Master Plan.[89]

The Project will provide 53 parking spaces, two separate, one-way driveways for pickup and drop-off on 81st Street and Maie Avenue, and a two-way driveway to the parking structure from 82nd Street. The internal circulation scheme of the Project will include one-way lanes for drop-off and pick-up lanes, which will be entered from 81st Street via right turns only and exited from on Maie Avenue via right turn only. The right-turn only movements will only be enforced during drop-off/pick-up hours. Signs would also be posted at the ingress and egress driveways indicating turning restrictions. Traffic monitors would also assist in directing vehicles through the drop off/pick-up areas and cones would be places onsite to facilities drop-off/pick-up. A vehicle queuing analysis for the Project was completed by Linscott, Law & Greenspan, Engineers dated

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[87] Los Angeles County, Department of Regional Planning, Transit Oriented Districts Policy Map.

[88] Los Angeles County, General Plan 2035, Pedestrian Plan, Adopted September 2019.

[89] Los Angeles County, General Plan 2035, Bicycle Master Plan, Final Plan March 2012.

September 15, 2021 and is included as **Appendix I-2.**[90] The queuing analysis demonstrated that the onsite drop-off/pick-up area lanes can accommodate approximately 15 queued vehicles which would accommodate the Project's peak queue of 10 vehicles. The Project would not cause vehicles to queue onto 81st Street. As stated in the County of Los Angeles Department of Public Works Traffic Queuing Analysis Memo, dated November 9, 2021 and included as **Appendix I-3,** the Project would be required to provide staff to accommodate peak-hour vehicle queues on-site, install and maintain signs at ingress/egress driveways, and stagger start and dismissal times of the middle and elementary school components by a minimum of 20 minutes to ensure expected peak hour vehicles are accommodated on-site and would not create a significant impact. As such, the Project would have a less than significant impact related to conflict with an applicable program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities

**b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** A significant impact may occur if the Project will conflict or be inconsistent with CEQA Section 15064.3 subdivision (b). SB 743 (SB 743) was enacted in September 2013, changing the way transportation impact analysis will be conducted under CEQA. These changes include the elimination of auto delay, LOS, and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant traffic impacts under CEQA. According to the Project Trip Generation from Linscott, Law, Greenspan, Engineers, the Project will generate 380 total one-way trips in the AM Peak Hour, 102 trips in the PM Peak Hour, and 1,191 daily trips.[91]

As discussed in the TIA memorandum, the County TIA guidelines state that a project does not require a VMT analysis and will have a less than significant VMT impact if it is located within a one-half mile radius of a major transit stop or high-quality transit corridor, and the Project does not meet any of four additional criteria: having a floor area ratio (FAR) less than 0.75, providing more parking than required by the County Code, being inconsistent with the SCAG RTP/SCS, and replacing residential units set aside for lower income households with a smaller number of market-rate residential units. The Project is located within a 0.42-mile radius from the Los Angeles County Metropolitan Transportation Authority (Metro) Firestone Station. The Firestone Station is served by the Metro A Line (Blue), a light rail line that provides northbound and southbound service from Downtown Los Angeles to Long Beach. The Project is therefore within a one-half mile radius of a major transit stop. Furthermore, the Project will have an FAR of approximately 0.76, which is not less than 0.75, will not provide more than the 53 parking spaces required by the County Code, will not be inconsistent with the SCAG RTP/SCS as discussed previously, and will not remove or construct housing of any kind. As such, per the screening criteria of County TIA Guidelines, the Project is not required to perform a VMT analysis and will therefore result in a less than significant impact.

**c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?** ☐ ☐ ☒ ☐

**Less Than Significant Impact.** The Project will have two driveways for the pickup and drop-off areas, one entrance and one exit and a driveway on 82nd Street which would provide both ingress and egress to the subterranean parking garage. There are currently two existing access points to the Project site along Maie

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[90] Linscott, Law & Greenspan, Engineers Vehicle Queuing Analysis for the KIPP Ignite Academy Project 1628 E. 81st Street, September 15, 2021. Included in Appendix I-2.

[91] Linscott, Law & Greenspan, Engineers, KIPP Ignite Academy – Transportation Impact Analysis, October 1, 2021. Included as Appendix I-1.

Avenue. The Project will close the northern access point along Maie Avenue and will create one along 81st Street and one along 82nd street. The site plan shows that the driveway on 81st Street is for entrance only and the existing southern driveway along Maie Avenue will be for exit only. (Figure 2 to the LLG Vehicle Queuing Analysis, Appendix I-2.) In addition, these driveways would be right-turn only during drop-off/pick-up hours. This will not create a sharp curve or blind turn that will potentially endanger motorists, cyclists, or pedestrians.

During construction, there will be equipment associated with the building of a two-story structure. Construction of the Project will be subject to California and Los Angeles County codes, which will reduce impacts from possible incompatible uses. The Project site also neighbors an industrial area and thus is accustomed to the use of larger equipment in the area. Use of construction equipment will only be for a short period of time and then the use of passenger vehicles will be the main use of transportation to and from the Project site. Therefore, impacts due to a design feature or incompatible use will be less than significant.

**d) Result in inadequate emergency access?** ☐ ☐ ☐ ☒

**No Impact.** As described in the Hazards and Hazardous Materials Section, above, according to the Los Angeles County General Plan, the Project will not be located along a disaster route.[92] The nearest Highway Disaster Route is South Alameda Street, which is located approximately 0.7 driving miles to the east of the Project site. Two one-way driveways on 81st Street and Maie Street, which are local streets that have one lane in each direction, will provide ingress and egress, respectively, to the Project site. In addition, a driveway on 82nd Street will provide both ingress and egress to the subterranean parking garage. The Project will not inhibit any emergency access routes as it is fully contained on the existing parcel. The Project will not require, build, or alter any new roads or access roads. The Project will in include a fire lane and will be subject to requirements and approval by the LAFD. Therefore, the Project will have no impact with regard to emergency access.

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[92] Los Angeles County Department of Regional Planning, General Plan Figure 12.6, Disaster Routes Map, May 2014

## 18. TRIBAL CULTURAL RESOURCES

| | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:** | | | | |
| **i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k), or** | ☐ | ☒ | ☐ | ☐ |

The following tribal cultural resources analysis is primarily based on the Phase I Cultural Resources Report (Phase I Report), prepared by Envicom Corporation, dated April 26, 2019 and included as **Appendix D**.

**Less Than Significant Impact with Mitigation Incorporated.** There are no national, state, or locally-designated historic resources on the Project site or immediate vicinity. Therefore, the Project will have no impact regarding a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources.

However, as stated in Section 5a, the Project property contained historic cultural resources built around 1937, with extensive local development that dated back to the 1920s and is considered sensitive for older historic cultural resources. Implementation of MM **CUL-1** will reduce a potentially significant impact by requiring archaeological monitoring during ground disturbance until older alluvium or bedrock are encountered.

If a resource is found, construction will not resume in the locality of the discovery until consultation between the senior archaeologist, the Project manager, the Lead Agency, and all other concerned parties, takes place and reaches a conclusion approved by the Lead Agency. If a significant tribal cultural resource is discovered during earth-moving, complete avoidance of the find is preferred. However, further survey work, evaluation tasks, or data recovery of the significant resource may be required if the resource cannot be avoided. Any individual reports, including the final Project Monitoring Report, will be submitted to the South Central Coastal Information Center (SCCIC) at the conclusion of the Project. Therefore, the Project will have a less than significant impact to tribal cultural resources with mitigation incorporated.

**Mitigation Measure:**

**CUL-1** An archaeological monitor that meets the Secretary of Interior qualifications will be on site during Project ground disturbance until older alluvium or bedrock are encountered. Modern fill does not require monitoring. The archaeological monitor will collect any older historic material that is uncovered through grading and can halt construction within 50-feet of a potentially significant cultural resource, if necessary. Artifacts collected from a disturbed context or that do not warrant additional assessment can be collected without the need to halt grading. A final Project Monitoring Report will be produced that discusses all monitoring activities and all artifacts recovered through monitoring.

If potentially significant intact deposits are encountered that are within an undisturbed context, then a cultural resource "discovery" protocol will be followed. If buried materials of potential-archaeological significance are accidentally discovered within an undisturbed context during any earth-moving operation associated with the proposed Project, then all work in that area shall be halted or diverted away from the discovery to a distance of 50-feet until a qualified senior archaeologist can evaluate the nature and/or significance of the find(s).

**ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

☐ ☒ ☐ ☐

**Less Than Significant Impact.** The Phase I Report involved record search requests submitted on March 13, 2019 to the SCCIC and California NAHC to identify any previously recorded cultural resources on the subject property and vicinity. The SCCIC and the NAHC record searches were negative for cultural resources on the subject property and the two cultural resources located within the 0.25 mile study area, which are not adjacent to the Project property, do not warrant further assessment. A pedestrian surface survey conducted by Envicom archaeologists on March 27, 2019 was also negative for cultural resources on the surface of the Project property.

Although there are no known tribal cultural resources listed or eligible for listing, Assembly Bill 52 (AB 52) established a formal consultation process for California Native American Tribes to identify potential significant impacts to Tribal Cultural Resources (TCR), as defined in Public Resources Code §21074, as part of CEQA. As specified in AB 52, lead agencies must provide notice inviting consultation to California Native American tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if the Tribe has previously submitted a request in writing to the Lead Agency to be notified of proposed projects. The Tribe must respond in writing within 30 days of the County's AB 52 notice for a request for direct consultation with the County.

Pursuant to AB 52, the County mailed a notification letter to two (2) California Native American Tribes, including the San Gabriel Band of Mission Indians and Gabrieleno Band of Mission Indians on October 19, 2021, describing the Project and informing tribes they had 30 days from receipt to request consultation. The AB 52 letters are included as **Appendix J**. One tribe, the Gabrielino Band of Mission Indians, requested consultation. The County held a consultation meeting with representative of the Gabrielino Band of Mission Indians on January 4, 2022 to discuss the Project, tribal cultural resources, and potential mitigation measures. The Gabrielino Band of Mission Indians' representatives sent supplemental information and draft mitigation measures to the County on January 20, 2022. Final consultation was concluded on February 24, 2022, and the Gabrieleno suggested mitigation measures including retention of a Native American Monitor prior to commencement of ground disturbing activities, protocol in the case of unanticipated discovery of human remains and associated funerary objects, and procedures for burials and funerary remains. As such, the Project would incorporate MM **TCR-1, TCR-2, TCR-3 and CUL-2**, and impacts would be less than significant with mitigation incorporated.

**Mitigation Measures:**

**TCR-1** **Native American Monitoring**

The Project applicant shall retain a professional Native American monitor who has a cultural affiliation to the Project region to observe all ground disturbing activities of intact or potentially intact native soils. Ground disturbing activities include, but are not limited to, site clearing and grubbing, grading, excavation, and trenching. Monitoring will take place for the duration of such activities until older alluvial deposits or bedrock is encountered, which are pre-Holocene geological contexts that do not have prehistoric Native American cultural resources. Fill deposits will not require monitoring.

If prehistoric or Native American ethnographic cultural resources are encountered during Project grading or earth moving within an undisturbed native soils context, the Native American monitor will have the authority to redirect earth moving activities away from the location of the discovery by 30-feet in order to assess and document the potential find(s). A principal archaeologist for the Project will be immediately informed, who will assess whether the inadvertent discovery protocol for cultural resources should be followed, as outlined under Recommendation-2. If the discovery protocol is not triggered, normal monitoring can resume. Any material collected by the monitor from disturbed contexts can be curated by the monitor until the end of the project (see Recommendation-3) or placed outside of the Project development footprint in a location that will not be impacted.

**TCR-2** **Discovery Protocol for the Unexpected Discovery of Native American Artifacts or Features**.

If potentially significant intact prehistoric or Native American ethnographic deposits are encountered that are within an undisturbed context, then the Project cultural resource "discovery" protocol will be followed. All work in the vicinity of the discovery shall be halted or diverted away from the discovery to a distance of 30-feet until a qualified archaeological principal can evaluate the nature and/or significance of the find(s). If the archaeological principal (not the field monitor) confirms that the discovery is potentially significant, then the Lead Agency will be contacted and informed of the discovery.

Construction will not resume in the locality of the discovery until consultation between the principal archaeologist, the applicant's representative, the Lead Agency, and all Native American tribal group representatives who have a cultural affiliation with the Project region, takes place and reaches a conclusion approved by the Lead Agency. If a significant resource is discovered during earth-moving, complete avoidance of the find is preferred. However, if the discovery cannot be avoided, further survey work, evaluation tasks, or data recovery of the significant resource may be required by the Lead Agency. The Lead Agency may also require changes to Project monitoring, based on the discovery.

**TCR-3** **Reburial of Native American Artifacts**

If discovery consultation leads to an agreement by the Project principal archaeologist, the Native American monitor, and the Lead Agency that artifacts associated with a Tribal Cultural Resource (TCR) have been discovered within an undisturbed native soils context, then the Lead Agency shall consult with all Native American Tribal Group representatives who have a cultural affiliation with the Project region, as to the disposition and treatment of any prehistoric or Native American ethnographic materials encountered during Project construction. Once all Native American groups have been consulted with, the Lead Agency will then select a course of action for the reburial of all uncovered artifacts.

**CUL-2** The inadvertent discovery of human remains is always a possibility during ground disturbances; State of California Health and Safety Code Section 7050.5 addresses these findings. This code section states that in the event human remains are uncovered, no further disturbance shall occur until the County Coroner has made a determination as to the origin and disposition of the remains pursuant to PRC Section 5097.98. The Coroner must be notified of the find immediately, together with the City and the property owner.

If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials and an appropriate re-internment site. The Lead Agency and a qualified archaeologist shall also establish additional appropriate mitigation measures for further site development, which may include additional archaeological and Native American monitoring or subsurface testing.

# 19. UTILITIES AND SERVICE SYSTEMS

| **Would the project:** | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water draining, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.**

**Water Facilities**

Water supplies for the Project will be provided by connecting to an existing water line that serves the area. The Project will be served by the Golden State Water Company, which receives its water from groundwater and the Central Basin Municipal Water District.[93] The Central Basin Municipal Water District receives its water from the Metropolitan Water District and groundwater.[94] The Urban Water Management Plans (UWMP) for the Golden State Water Company[95] and the Central Basin Municipal Water District[96] both anticipate to have sufficient water supplies to meet demands until at least 2040. Both UWMPs have contingency plans should there be a future shortage. Water projections from the Central Basin Municipal Water District UWMP are based on data from SCAG, which provides regional growth forecasts and incorporates city and county general plans, including the County of LA.[97] As such, the Project water demand is accounted for based on its inclusion in the SCAG projections, which the UWMP relies on for future growth data.

The Project involves the construction of a new two-story public charter school facility with an underground parking garage, landscaping and playgrounds on an existing, currently vacant lot. Based on these characteristics, water demand is provided in **Table 19-1, Project Water Demand**.

**Table 19-1**
**Project Water Demand**

| Type of Use | Size or Units | Demand Rate [(a)] | Water Demand (gpd) |
|---|---|---|---|
| *Proposed* | | | |
| School Use | 34,044 SF | 240 gpd/1,000 SF | 8,170.6 |
| | | **Total Water Demand** | **8,170.6** |
| Source: Sanitation Districts of Los Angeles County, Table 1, Loadings for Each Class of Land Use, Accessed on June 23, 2020 at: https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=3531.<br>(a) Used "Private School" Demand Rate.<br>Water demand assumed to be 120% of wastewater generation from "Private School" demand rate used. | | | |

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[93] Golden State Water Company, 2015 Urban Water Management Plan, Florence-Graham, July 2016.
[94] Central Basin Municipal Water District, Service Area, Accessed on June 23, 2020 at: https://www.centralbasin.org/about_us/service_area.
[95] Golden State Water Company, 2015 Urban Water Management Plan, Florence-Graham, July 2016.
[96] Central Basin Municipal Water District, 2015 Urban Water Management Plan, June 2016.
[97] Central Basin Municipal Water District, 2015 Urban Water Management Plan, June 2016.

As shown in Table 19-1, the Project water demand will be 8,171 gallons per day (gpd). As the Golden State Water Company and Central Basin Municipal Water District anticipate having supplies sufficient to meet future water demands through 2040, it is assumed they can meet the full water demands of the Project. Therefore, the Project will not create capacity problems and will not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects. Potential impacts regarding relocation of construction of new or expanded water facilities will be less than significant.

### Wastewater Facilities

Wastewater services will be provided by the Los Angeles County Public Works Consolidated Sewer Maintenance District (SMD), which covers approximately 4,600 miles of sanitary sewer lines within the County.[98] The Project site will connect to existing eight inch clay sewer lines located along E. 81st Street and Maie Avenue.[99] The sewer lines ultimately connect to the Joint Water Pollution Control Plant (JWPCP), which is maintained by the Los Angeles County Sanitation Districts, which operates and maintains the regional wastewater collections systems including approximately 1,400 miles of sewers, 49 pumping plants and 11 wastewater treatment plants. The JWPCP provides both primary and secondary treatment, has a total permitted capacity of 400 million gallons per day (mgd) and treats approximately 260 mgd.[100] The estimated amount of wastewater the Project will generate is provided in **Table 19-2, Project Wastewater Generation**.

**Table 19-2**
**Project Wastewater Generation**

| Type of Use | Size or Units | Demand Rate (a) | Wastewater Demand (gpd) |
|---|---|---|---|
| *Proposed* | | | |
| School Use | 34,044 SF | 200 gpd/1,000 SF | 6,808.8 |
| | | **Total Wastewater Generation** | **6,808.8** |

Source: Sanitation Districts of Los Angeles County, Table 1, Loadings for Each Class of Land Use, Accessed on June 23, 2020 at: https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=3531.
(a) Used "Private School" Demand Rate.

As shown in Table 19-2, the Project will generate approximately 6,809 gpd of wastewater. The Project wastewater generation will account for less than one percent of the excess treatment capacity at the JWPCP. Therefore, the Project will have a less than significant impact to wastewater capacity or resulting in the construction of new wastewater treatment facilities.

### Storm Water Draining Facilities

The Project is currently occupied by a paved parking lot with a few landscaped areas and an existing catch basin. Construction of the Project will build a new school building and a parking lot. Similar to existing conditions, there will be landscaping around the building and parking lot. The proposed Project buildings will contain downspouts that will connect to the proposed storm drain system. Surface runoff will drain to various catch basins located on the Project site and will be retained by the Project-specific infiltration system, which will collect, store and percolate the storm water into the underlying soils. Any overflow from the infiltration system will discharge to 82nd Street through a proposed parkway drain. The Project will also be subject to the County LID standards that assure no increase in stormwater runoff. As such, the Project will not contribute

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[98] Los Angeles County Public Works, Consolidated Sewer Maintenance District, About Us, Accessed on June 23, 2020 at: https://pw.lacounty.gov/SMD/SMD/Page_08.cfm.

[99] Consolidated Sewer Maintenance District, S-1753 Map, Revised November 1, 2016.

[100] Sanitation District of Los Angeles County, Wastewater Treatment Processes at the JWPCP Accessed on June 23, 2020 at: https://www.lacsd.org/services/wastewater/wwfacilities/wwtreatmentplant/jwpcp/wwtreatmentprocessjwpcp.asp.

runoff that will exceed the capacity of existing stormwater drainage systems, and the Project will not require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects. Potential impacts will be less than significant.

**Electric Power, Natural Gas, and Telecommunication Facilities**

The proposed Project is an infill development within a highly urbanized area that is currently served by existing electric power, natural gas, and telecommunications infrastructure. The Project will be served by SCE for electricity. As indicated by KIPP, the Project will use natural gas and non-cellular telecommunications facilities. The electric, natural gas, and telecommunications to be installed for the proposed school will be served by existing infrastructure and the Project will extend existing adjacent infrastructure and will not require or result in the significant relocation or construction of new or expanded electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects. Therefore, impacts are expected to be less than significant.

| | | | | |
|---|---|---|---|---|
| **b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** As stated above, the Project will be served by the Golden State Water Company, which receives its water from groundwater and the Central Basin Municipal Water District. The Central Basin Municipal Water District receives its water from the Metropolitan Water District and groundwater. The UWMPs for the Golden State Water Company and the Central Basin Municipal Water District are both projected to have sufficient water supply to meet demands during normal, dry, and multiple dry years until at least 2040. As stated above, the Project water demand is accounted for based on its inclusion in SCAG projections, which the UWMP relies on for future growth data.

In addition, both UWMPs have contingency plans should there be a future shortage. As the Golden State Water Company and Central Basin Municipal Water District anticipate having supplies sufficient to meet future water demands through 2040, it is assumed they can meet the full water demands of the Project. Therefore, impacts related to water supplies will be less than significant.

| | | | | |
|---|---|---|---|---|
| **c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** As stated above, the Los Angeles County Public Works SMD will maintain the sewer infrastructure and wastewater will be treated at the JWCPC, which provides primary and secondary treatment. The current excess treatment capacity is approximately 140 mgd. The JWCPC will have capacity to serve the Project's Project demand in addition to the provider's existing commitments and therefore wastewater supply impacts will be less than significant.

| | | | | |
|---|---|---|---|---|
| **d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Los Angeles County Sanitation Districts is responsible for solid waste collection and disposal within the County. The Countywide Siting Element as updated establishes goals and policies for the County to maintain and manage residual waste at landfills and transformation facilities for a 15-year planning period.[101] The Waste Management Act (AB 939) requires each California city and county to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) a source reduction and recycling element (SRRE) that demonstrates how the jurisdiction will meet AB 939's mandated diversion goals of 50 percent. Effective January 1, 2017, all projects within the County are subject to the CalGreen, which requires that a minimum of 65 percent of the construction waste materials generated during the project be diverted.[102]

The Project includes the construction of new facilities at the Project site. During construction, the Project will be required by CalGreen to divert 65 percent of the construction debris generated. For the disposal of solid waste that will be generated and unable to be recycled, the nearest active landfills to the Project site are the Savage Canyon and Scholl Canyon Landfills.[103] The Project site is a similar distance from each landfill. The Scholl Canyon Landfill is located in Glendale and the use of the landfill is restricted to certain cities, and the Project site is not located within an accepted area.[104] As such, the Project will not utilize Scholl Canyon Landfill. The Savage Canyon Landfill is located in Whittier and has a remaining permitted capacity of 4,580,480 tons as of December 31, 2018, with an estimated remaining life of 37 years, a daily maximum permitted capacity of 350 tons, and an average daily waste disposal of 296 tons.[105] Currently the Project site only consists of an empty parking lot, thus demolition will not create a significant amount of solid waste. During operation, the Project will only generate small amounts of solid waste from typical school activities. Given the Savage Canyon Landfill has an estimated remaining life of 37 years and the capacity to accept more solid waste, the Project will make up a minimal amount of solid waste disposal.

Disposal of solid waste from the Project and incorporation of a recycling component will be consistent with the policies and programs contained within the County of Los Angeles SRRE. Therefore, potential impacts associated with landfill capacity or attainment of solid waste reduction goals will be less than significant.

| | | | | |
|---|---|---|---|---|
| **e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact.** The Project will be constructed in compliance with the applicable County of Los Angeles Building Code, California Building Code, and the California Green Building Code. The Project will also be required to be in compliance with AB 939 and consistent with the Los Angeles Countywide Integrated Waste Management Plan.[106] Consistency with the Los Angeles Countywide Integrated Waste Management Plan and compliance with AB 939 will ensure the Project meets all federal, state, and local statutes and regulations related to solid waste. Therefore, the Project will have a less than significant impact to complying with federal, state, and local statutes and regulations related to solid waste.

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[101] Los Angeles County, Department of Public Works, Countywide Siting Element, Accessed on June 23, 2020 at: https://dpw.lacounty.gov/epd/cse/faq/.

[102] County of Los Angeles Department of Building and Safety, 2017 Los Angeles Green Building Code, Green Building Code Plan Check Notes, Rev. January 17, 2017.

[103] Los Angeles County, Department of Regional Planning, General Plan 2035, Figure 13.1- Landfills, May 2014.

[104] County of Los Angeles, Countywide Integrated Waste Management Plan, 2018 Annual Report.

[105] County of Los Angeles, Countywide Integrated Waste Management Plan, 2018 Annual Report.

[106] County of Los Angeles, Countywide Integrated Waste Management Plan, 2018 Annual Report.

## 20. WILDFIRE

| | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Would the project:** | | | | |
| **a) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** According to the County of Los Angeles General Plan (Figure 12.5, Fire Hazard Severity Zones Policy Map), the Project is not located within a VHFHSZ.[107] In addition, according to Cal FIRE, Fire and Resource Assessment Program for the California Department of Forestry and Fire Protection, Los Angeles County, the Project is not located in or near a state responsibility area or lands classified as a VHFHSZ. The Project is located within an urbanized context and surrounding by existing urban land use. The Project will be required to comply with all applicable fire and safety codes and standards of the LACFD. As the Project is not located within or near a state responsibility area or lands classified as VHFHSZs, the Project will have no impact.

| | | | | |
|---|---|---|---|---|
| **b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** See response 20a, above.

| | | | | |
|---|---|---|---|---|
| **c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** See response 20a, above.

| | | | | |
|---|---|---|---|---|
| **d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?** | ☐ | ☐ | ☐ | ☒ |

**No Impact.** See response 20a, above.

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[107] Los Angeles County Department of Regional Planning, General Plan Figure 12.5: Fire Hazard Severity Zones Policy Map, May 2014.

## 21. MANDATORY FINDINGS OF SIGNIFICANCE

| | *Potentially Significant Impact* | *Less Than Significant Impact with Mitigation Incorporated* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| **a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?** | ☐ | ☒ | ☐ | ☐ |

**Less Than Significant Impact with Mitigation Incorporated.** The Project site is within a highly developed urban area of Los Angeles County adjacent to the City of Los Angeles in the Florence-Firestone Community surrounded by residential and commercial uses. It is currently a deteriorated paved parking lot across from industrial businesses along Maie Avenue. It was formerly used for debris and material storage. There are no open space areas or water bodies on or adjacent to the Project site, thus the potential to impact a fish or wildlife population is limited and would not cause populations to drop below self-sustaining levels. The Project site does not contain a threatened plant or animal community, nor would the Project reduce or restrict the range of a rare or endangered plant or animal. See Section 4. Biological Resources above for further response.

The Project site is an existing deteriorated paved lot that is not eligible for federal, state, or local designation under any applicable criteria. as referenced in Section 5. Cultural Resources. As the Project property contained historic cultural resources built around 1937, with extensive local development that dated back to the 1920s, the Project property is considered sensitive for older historic cultural resources. Implementation of MM-**CUL-1** and **CUL-2** would reduce potential impacts on older historic or prehistoric resources to less than significant and no further analysis is required.

| | | | | |
|---|---|---|---|---|
| **b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?** | ☐ | ☒ | ☐ | ☐ |

**Less Than Significant Impact with Mitigation Incorporated.** The preceding analyses identify short-term and long-term effects of the Project, where applicable, in the form of temporary construction period and permanent operational period impacts. Impacts can be reduced to less than significant levels with the implementation of mitigation measures. In addition, the Project would be consistent with applicable County plans and policies, and it would be consistent with SCAG growth forecasts for the area. Therefore, the Project would not have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals, and impacts would be less than significant with mitigation incorporated.

| | | | | |
|---|---|---|---|---|
| **c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?** | ☐ | ☐ | ☒ | ☐ |

**Less Than Significant Impact**. The Project does not have impacts that are individually limited, but cumulatively considerable. All Project impacts were either "no impact," "less than significant," or "less than significant impact with mitigation incorporated." There would be no significant impacts after mitigation. Given the Project site's highly developed urban location, and the Project's plans to construct a modern efficient school facility on a commercial/industrial site previously used for material storage and transfer, its impacts would not be cumulatively considerable. Therefore, the Project would have a less than significant impact and no further analysis is required.

| | | | | |
|---|---|---|---|---|
| **d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?** | ☐ | ☒ | ☐ | ☐ |

**Less Than Significant Impact with Mitigation Incorporated**. The Project site is located in an already highly urbanized area of Los Angeles County adjacent to the City of Los Angeles in the Florence-Firestone Community. It is currently a deteriorated paved parking lot across from industrial businesses along Maie Avenue. It was formerly used for debris and material storage and it abuts single and multi-family residences on the west and northwest property lines. Residences are also located on the opposite sides of 81st and 82nd streets. Temporary construction impacts will be mitigated to less than significant with the implementation of the proposed mitigation measures. The proposed Project will construct a new 2-story charter school, with play yards and landscaping surrounding the entire property. This school will replace the deteriorated parking lot and prevent it from being used for commercial and industrial purposes. The new school will be compliant and consistent with local land use guidelines and will provide the local neighborhood residents with a state of the art educational facility.

Environmental effects which could cause substantial adverse effects on human beings were evaluated in the previous sections of this document. Project impacts were either "no impact," "less than significant," or "less than significant with mitigation incorporated." Therefore, the Project would have a less than significant impact with mitigation incorporated and no further analysis is required.

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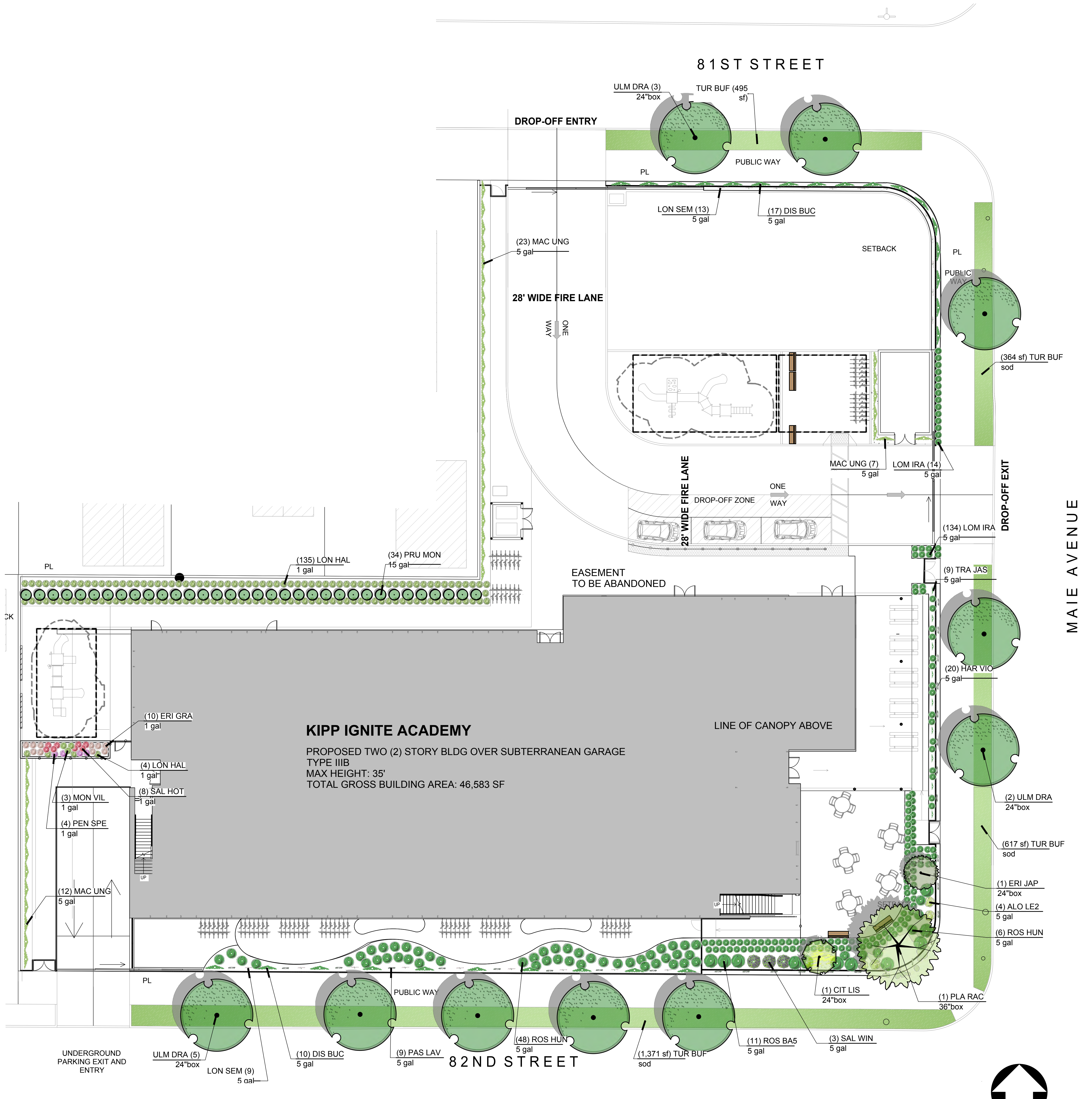
# APPENDIX A

## Landscaping Plan

# PLANT SCHEDULE SITE

| TREES | CODE | BOTANICAL / COMMON NAME | CONT | PLANT FACTOR | QTY |
|---|---|---|---|---|---|
| | CIT LIS | CITRUS X LIMON `LISBON` / LISBON LEMON | 24"BOX | 0.5, MOD | 1 |
| | ERI JAP | ERIOBOTRYA JAPONICA / LOQUAT | 24"BOX | 0.5, MOD | 1 |
| | PLA RAC | PLATANUS RACEMOSA / CALIFORNIA SYCAMORE | 36"BOX | 0.5, MOD | 1 |
| | PRU MON | PRUNUS CAROLINIANA `MONUS` / BRIGHT `N TIGHT CAROLINA CHERRY LAUREL<br>3` O.C. | 15 GAL | 0.3, LOW | 34 |
| | ULM DRA | ULMUS PARVIFOLIA `DRAKE` / DRAKE CHINESE ELM | 24"BOX | 0.3, LOW | 10 |
| SHRUBS | CODE | BOTANICAL / COMMON NAME | SIZE | PLANT FACTOR | QTY |
| | ALO LE2 | ALOYSIA CITRIODORA / LEMON VERBENA | 5 GAL | 0.3, LOW | 4 |
| | DIS BUC | DISTICTIS BUCCINATORIA / BLOOD RED TRUMPET VINE | 5 GAL | 0.5, MOD | 27 |
| | ERI GRA | ERIOGONUM GRANDE RUBESCENS / RED BUCKWHEAT | 1 GAL | 0.3, LOW | 10 |
| | HAR VIO | HARDENBERGIA VIOLACEA / LILAC VINE<br>8` O.C. | 5 GAL | 0.3, LOW | 20 |
| | LOM IRA | LOMANDRA LONGIFOLIA `BREEZE` TM / BREEZE MAT RUSH<br>2` O.C. | 5 GAL | 0.3, LOW | 148 |
| | LON HAL | LONICERA JAPONICA `HALLIANA` / HALLS HONEYSUCKLE FLOWERING VINE<br>2` O.C. | 1 GAL | 0.3, LOW | 139 |
| | LON SEM | LONICERA SEMPERVIRENS `MAGNIFICA` / TRUMPET HONEYSUCKLE | 5 GAL | 0.5, MOD | 21 |
| | MAC UNG | MACFADYENA UNGUIS-CATI / YELLOW TRUMPET VINE<br>5` O.C. | 5 GAL | 0.3, LOW | 42 |
| | MON VIL | MONARDELLA VILLOSA / COYOTE MINT | 1 GAL | 0.3, LOW | 3 |
| | PAS LAV | PASSIFLORA X `LAVENDER LADY` / PASSION VINE | 5 GAL | 0.5, MOD | 8 |
| | PEN SPE | PENSTEMON SPECTABILIS / SHOWY PENSTEMON | 1 GAL | 0.3, LOW | 4 |
| | ROS BA5 | ROSMARINUS OFFICINALIS `BARBEQUE` / ROSEMARY | 5 GAL | 0.3, LOW | 11 |
| | ROS HUN | ROSMARINUS OFFICINALIS `HUNTINGTON CARPET` / HUNTINGTON CARPET ROSEMARY | 5 GAL | 0.3, LOW | 41 |
| | SAL WIN | SALVIA CLEVELANDII `WINIFRED GILLMAN` / CLEVELAND SAGE | 5 GAL | 0.3, LOW | 3 |
| | SAL HOT | SALVIA MICROPHYLLA `HOT LIPS` / HOT LIPS SAGE | 1 GAL | 0.3, LOW | 8 |
| | TRA JAS | TRACHELOSPERMUM JASMINOIDES / CHINESE STAR JASMINE<br>8` O.C. | 5 GAL | 0.5, MOD | 9 |
| GROUND COVERS | CODE | BOTANICAL / COMMON NAME | CONT | PLANT FACTOR | QTY |
| 🟩 | TUR BUF | TURF SOD BUFFALO / BUFFALO SOD | SOD | 0.5, MOD | 2,846 SF |



No existing oaks on project site.
Landscaping and irrigation are designed to meet California's MWELO requirements.

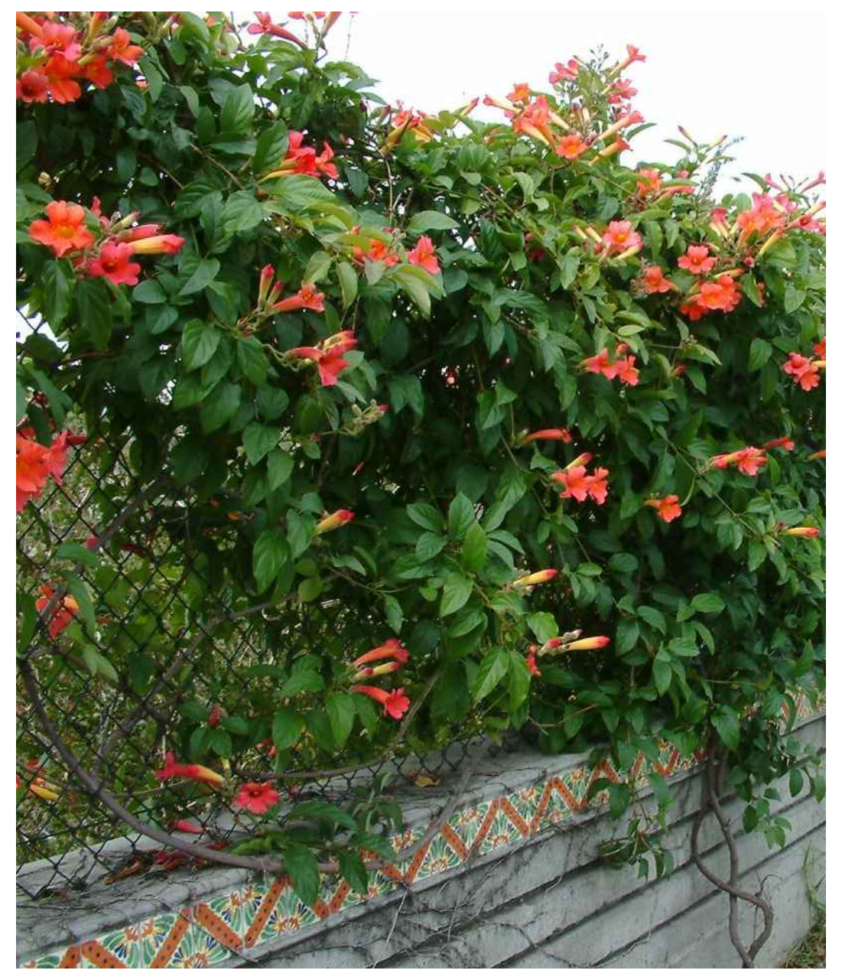
Lemon tree

Loquat tree

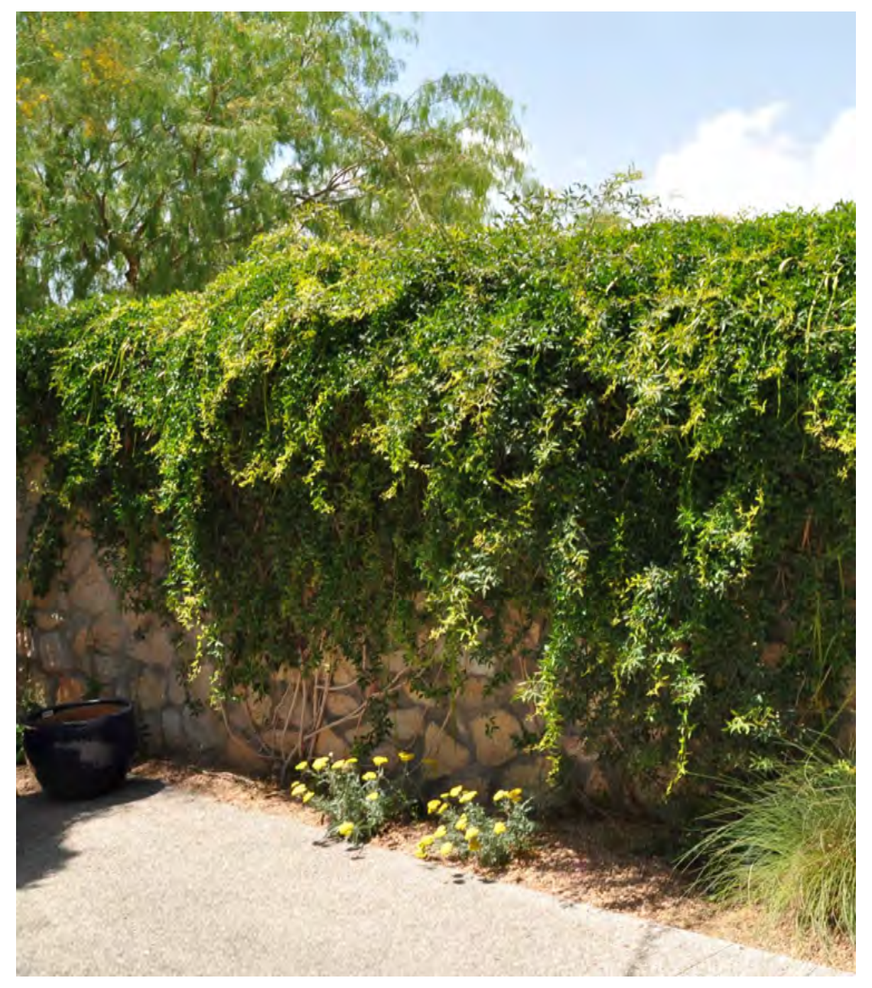
Platanus racemosa (Shade tree)

Ulmus parvifolia (Street tree)

Prunus caroliniana



Distictis buccinatoria



Macfadyena unguis-cati

Lomandra longifolia

Scented herb border

Pollinator garden (kindergarten)

DATE PRINTED:

**PROJECT**

1628 EAST 81ST STREET
LOS ANGELES, CA 90001
APN:
6027-003-022, -023, -024, -025, -027, -028, -029, -030, -031

**CLIENT**

**KIPP : LA**
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LOS ANGELES, CA 90017

**ARCHITECT**

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275 WEST HOSPITALITY LANE, SUITE 100
SAN BERNARDINO, CA 92408
909-890-3700

**CIVIL ENGINEER**
BRANDOW & JOHNSTON
700 SOUTH FLOWER ST. SUITE 1800
LOS ANGELES, CA 90017
213-596-4500

**LANDSCAPE ARCHITECT**
OFFICE OF THE DESIGNED LANDSCAPE
1131 SUPERBA AVENUE
VENICE, CA 90291
213-364-7397

**ISSUES**

| | SUBMITTAL | DATE |
|---|---|---|
| | SCHEMATIC DESIGN | 07/01/2020 |
| | DESIGN DEVELOPMENT | 07/31/2020 |
| | CUP SUBMITTAL | 07/31/2020 |
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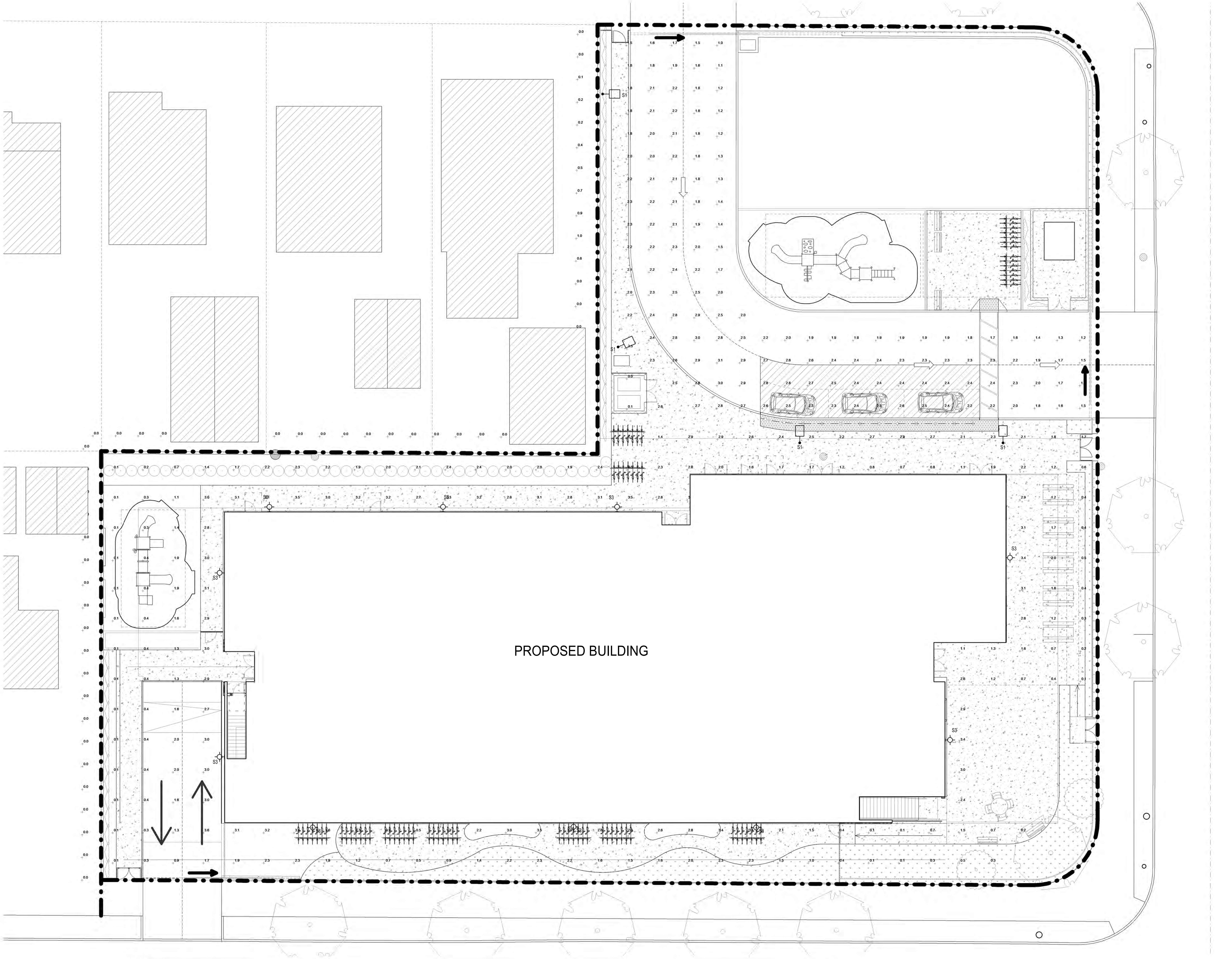
**JOB NUMBER**

Planting Plan

L3.1

# APPENDIX B

## Lighting Plan



**Schedule**

| Symbol | Label | QTY | Manufacturer | Catalog Number | Description | Lamp | Number Lamps | Filename | Lumens per Lamp | LLF | Wattage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ⊣□ | S1 | 4 | EATON - McGRAW-EDISON (FORMER COOPER LIGHTING) | GLEON-AF-01-LED-E1-T3 | SINGLE POLE MOUNTED LED AREA LUMINAIRE MOUNTED +20'-0" | LED | 16 | GLEON-AF-01-LED-E1--T3.ies | 390 | 1 | 59 |
| ⊢◯⊣ | S3 | 10 | EATON - INVUE (FORMER COOPER LIGHTING) | ENC-E01-LED-E1-BL2 | WALL MOUNTED LED FIXTURE MOUNTED +10'-0" | LED | 21 | ENC-E01-LED-E1-BL2.ies | 130 | 1 | 24.7 |

**Statistics**

| Description | Symbol | Avg | Max | Min | Max/Min | Avg/Min |
|---|---|---|---|---|---|---|
| BUILDING PERIMETER | + | 1.7 fc | 3.6 fc | 0.0 fc | N/A | N/A |
| DRIVEWAY | + | 2.1 fc | 3.1 fc | 1.0 fc | 3.1:1 | 2.1:1 |
| BEYOND P.L. | + | 0.1 fc | 1.0 fc | 0.0 fc | N/A | N/A |

SITE PHOTOMETRIC PLAN | 3/32" = 1'-0" | 1

DATE PRINTED: 8/4/2020 11:17:12 AM
BIM 360://KIPP Ignite/18-394_KIPP LA Ignite_MEP_Central.rvt

**PROJECT**

# KIPP: IGNITE ACADEMY

1628 EAST 81ST STREET
LOS ANGELES, CA 90001

APN:
6027-003-022, -023, -024, -025, -027, -028, -029, -030, -031

**CLIENT**

**KIPP : LA**
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DESIGN WEST ENGINEERING
MECHANICAL • ELECTRICAL • ENERGY CONSULTANTS

LEONARD P. MAYA
No. E19480
Exp. 6-30-2021
ELECTRICAL

**ISSUES**

| SUBMITTAL | DATE |
|---|---|
| SCHEMATIC DESIGN | 07/01/2020 |
| DESIGN DEVELOPMENT | 07/31/2020 |
| CUP SUBMITTAL | 07/31/2020 |

18-46 **JOB NUMBER**

## SITE PHOTOMETRIC PLAN

## ES1.03

20-140

# APPENDIX C-1

## CalEEMod Output Data

# KIPP Academy

## Los Angeles-South Coast County, Annual

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Elementary School | 34.04 | 1000sqft | 0.78 | 34,044.00 | 0 |
| Enclosed Parking Structure | 55.00 | Space | 0.00 | 22,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 33 |
| **Climate Zone** | 11 | | | **Operational Year** | 2022 |
| **Utility Company** | Los Angeles Department of Water & Power | | | | |
| **CO2 Intensity (lb/MWhr)** | 1227.89 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 1.03 ac lot. 34,044 sf k-8 school. 55 parking spaces basement garage.

Construction Phase - 5 demo, 37 grad, 211 bldg, 10 pav, 45 coat

Off-road Equipment -

Off-road Equipment - crane, forklift, generator, backhoe, 3 welders, concrete pump, material handler, lift

Off-road Equipment - Loader1 loader

Off-road Equipment - dozer, drill rig, excavator, loader

Off-road Equipment - mixer, paver, roller, paving equip., backhoe

Trips and VMT - 33 mi haul route. 14 cy trucks export

Demolition - 887 tons asphalt debris

Grading - 11,750 cy

Vehicle Trips - 1,191 trips/day per traffic study

Construction Off-road Equipment Mitigation - Rule 403

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 5.00 | 45.00 |
| tblConstructionPhase | NumDays | 100.00 | 211.00 |
| tblConstructionPhase | NumDays | 10.00 | 5.00 |
| tblConstructionPhase | NumDays | 2.00 | 37.00 |
| tblConstructionPhase | NumDays | 5.00 | 10.00 |
| tblConstructionPhase | PhaseEndDate | 12/17/2021 | 9/5/2022 |
| tblConstructionPhase | PhaseEndDate | 12/3/2021 | 6/20/2022 |
| tblConstructionPhase | PhaseEndDate | 7/14/2021 | 7/7/2021 |
| tblConstructionPhase | PhaseEndDate | 7/16/2021 | 8/27/2021 |
| tblConstructionPhase | PhaseEndDate | 12/10/2021 | 7/4/2022 |
| tblConstructionPhase | PhaseStartDate | 12/11/2021 | 7/5/2022 |
| tblConstructionPhase | PhaseStartDate | 7/17/2021 | 8/30/2021 |

| | | | |
|---|---|---|---|
| tblConstructionPhase | PhaseStartDate | 7/15/2021 | 7/8/2021 |
| tblConstructionPhase | PhaseStartDate | 12/4/2021 | 6/21/2022 |
| tblGrading | MaterialExported | 0.00 | 11,750.00 |
| tblLandUse | LotAcreage | 0.49 | 0.00 |
| tblOffRoadEquipment | LoadFactor | 0.36 | 0.36 |
| tblOffRoadEquipment | LoadFactor | 0.50 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.36 | 0.36 |
| tblOffRoadEquipment | LoadFactor | 0.40 | 0.40 |
| tblOffRoadEquipment | LoadFactor | 0.31 | 0.31 |
| tblOffRoadEquipment | LoadFactor | 0.36 | 0.36 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Loaders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Bore/Drill Rigs |
| tblOffRoadEquipment | OffRoadEquipmentType | | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Loaders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Welders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Material Handling Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Aerial Lifts |
| tblOffRoadEquipment | OffRoadEquipmentType | | Paving Equipment |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 33.00 |
| tblTripsAndVMT | HaulingTripNumber | 1,469.00 | 1,678.00 |
| tblVehicleTrips | WD_TR | 15.43 | 34.98 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2021 | 0.1373 | 1.3664 | 1.1344 | 3.0800e-003 | 0.0651 | 0.0488 | 0.1139 | 0.0204 | 0.0468 | 0.0672 | 0.0000 | 277.3128 | 277.3128 | 0.0397 | 0.0000 | 278.3044 |
| 2022 | 0.3031 | 1.0998 | 1.3167 | 2.3700e-003 | 0.0213 | 0.0511 | 0.0724 | 5.7300e-003 | 0.0494 | 0.0551 | 0.0000 | 201.7124 | 201.7124 | 0.0322 | 0.0000 | 202.5180 |
| **Maximum** | **0.3031** | **1.3664** | **1.3167** | **3.0800e-003** | **0.0651** | **0.0511** | **0.1139** | **0.0204** | **0.0494** | **0.0672** | **0.0000** | **277.3128** | **277.3128** | **0.0397** | **0.0000** | **278.3044** |

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2021 | 0.1373 | 1.3664 | 1.1344 | 3.0800e-003 | 0.0519 | 0.0488 | 0.1006 | 0.0153 | 0.0468 | 0.0621 | 0.0000 | 277.3126 | 277.3126 | 0.0397 | 0.0000 | 278.3042 |
| 2022 | 0.3031 | 1.0998 | 1.3167 | 2.3700e-003 | 0.0213 | 0.0511 | 0.0724 | 5.7300e-003 | 0.0494 | 0.0551 | 0.0000 | 201.7122 | 201.7122 | 0.0322 | 0.0000 | 202.5178 |
| **Maximum** | **0.3031** | **1.3664** | **1.3167** | **3.0800e-003** | **0.0519** | **0.0511** | **0.1006** | **0.0153** | **0.0494** | **0.0621** | **0.0000** | **277.3126** | **277.3126** | **0.0397** | **0.0000** | **278.3042** |

| | **ROG** | **NOx** | **CO** | **SO2** | **Fugitive PM10** | **Exhaust PM10** | **PM10 Total** | **Fugitive PM2.5** | **Exhaust PM2.5** | **PM2.5 Total** | **Bio- CO2** | **NBio-CO2** | **Total CO2** | **CH4** | **N20** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **15.32** | **0.00** | **7.11** | **19.39** | **0.00** | **4.13** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| **1** | **7-1-2021** | **9-30-2021** | 0.7733 | 0.7733 |
| **2** | **10-1-2021** | **12-31-2021** | 0.6935 | 0.6935 |
| **3** | **1-1-2022** | **3-31-2022** | 0.6205 | 0.6205 |
| **4** | **4-1-2022** | **6-30-2022** | 0.5842 | 0.5842 |
| **5** | **7-1-2022** | **9-30-2022** | 0.2084 | 0.2084 |
| | | **Highest** | 0.7733 | 0.7733 |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.1406 | 1.0000e-005 | 1.1400e-003 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 2.2100e-003 | 2.2100e-003 | 1.0000e-005 | 0.0000 | 2.3600e-003 |
| Energy | 1.9100e-003 | 0.0174 | 0.0146 | 1.0000e-004 | | 1.3200e-003 | 1.3200e-003 | | 1.3200e-003 | 1.3200e-003 | 0.0000 | 200.6195 | 200.6195 | 4.6500e-003 | 1.2300e-003 | 201.1037 |
| Mobile | 0.2659 | 1.4021 | 3.6813 | 0.0135 | 1.1126 | 0.0112 | 1.1239 | 0.2983 | 0.0105 | 0.3087 | 0.0000 | 1,242.6374 | 1,242.6374 | 0.0638 | 0.0000 | 1,244.2333 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 8.9824 | 0.0000 | 8.9824 | 0.5308 | 0.0000 | 22.2534 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.3132 | 22.8639 | 23.1771 | 0.0327 | 8.7000e-004 | 24.2543 |
| **Total** | **0.4085** | **1.4195** | **3.6970** | **0.0136** | **1.1126** | **0.0126** | **1.1252** | **0.2983** | **0.0118** | **0.3101** | **9.2955** | **1,466.1231** | **1,475.4186** | **0.6320** | **2.1000e-003** | **1,491.8471** |

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.1406 | 1.0000e-005 | 1.1400e-003 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 2.2100e-003 | 2.2100e-003 | 1.0000e-005 | 0.0000 | 2.3600e-003 |
| Energy | 1.9100e-003 | 0.0174 | 0.0146 | 1.0000e-004 | | 1.3200e-003 | 1.3200e-003 | | 1.3200e-003 | 1.3200e-003 | 0.0000 | 200.6195 | 200.6195 | 4.6500e-003 | 1.2300e-003 | 201.1037 |
| Mobile | 0.2659 | 1.4021 | 3.6813 | 0.0135 | 1.1126 | 0.0112 | 1.1239 | 0.2983 | 0.0105 | 0.3087 | 0.0000 | 1,242.6374 | 1,242.6374 | 0.0638 | 0.0000 | 1,244.2333 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 8.9824 | 0.0000 | 8.9824 | 0.5308 | 0.0000 | 22.2534 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.3132 | 22.8639 | 23.1771 | 0.0327 | 8.7000e-004 | 24.2543 |
| **Total** | **0.4085** | **1.4195** | **3.6970** | **0.0136** | **1.1126** | **0.0126** | **1.1252** | **0.2983** | **0.0118** | **0.3101** | **9.2955** | **1,466.1231** | **1,475.4186** | **0.6320** | **2.1000e-003** | **1,491.8471** |

| | **ROG** | **NOx** | **CO** | **SO2** | **Fugitive PM10** | **Exhaust PM10** | **PM10 Total** | **Fugitive PM2.5** | **Exhaust PM2.5** | **PM2.5 Total** | **Bio- CO2** | **NBio-CO2** | **Total CO2** | **CH4** | **N20** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Demolition | Demolition | 7/1/2021 | 7/7/2021 | 5 | 5 | |
| 2 | Grading | Grading | 7/8/2021 | 8/27/2021 | 5 | 37 | |
| 3 | Building Construction | Building Construction | 8/30/2021 | 6/20/2022 | 5 | 211 | |
| 4 | Paving | Paving | 6/21/2022 | 7/4/2022 | 5 | 10 | |
| 5 | Architectural Coating | Architectural Coating | 7/5/2022 | 9/5/2022 | 5 | 45 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 51,066; Non-Residential Outdoor: 17,022; Striped Parking Area: 1,320 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | 0 | 8.00 | 81 | 0.73 |
| Demolition | Rubber Tired Dozers | 0 | 1.00 | 247 | 0.40 |
| Grading | Concrete/Industrial Saws | 0 | 8.00 | 81 | 0.73 |
| Demolition | Tractors/Loaders/Backhoes | 0 | 6.00 | 97 | 0.37 |
| Demolition | Rubber Tired Loaders | 1 | 8.00 | 203 | 0.36 |
| Grading | Bore/Drill Rigs | 1 | 6.00 | 221 | 0.50 |
| Grading | Excavators | 1 | 6.00 | 158 | 0.38 |
| Grading | Rubber Tired Dozers | 1 | 1.00 | 247 | 0.40 |
| Grading | Rubber Tired Loaders | 1 | 8.00 | 203 | 0.36 |
| Grading | Tractors/Loaders/Backhoes | 0 | 6.00 | 97 | 0.37 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Cranes | 1 | 4.00 | 231 | 0.29 |
| Building Construction | Forklifts | 1 | 6.00 | 89 | 0.20 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |
| Building Construction | Pumps | 1 | 6.00 | 84 | 0.74 |
| Building Construction | Other Material Handling Equipment | 1 | 6.00 | 168 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Building Construction | Aerial Lifts | 1 | 6.00 | 63 | 0.31 |
| Paving | Cement and Mortar Mixers | 1 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 7.00 | 130 | 0.42 |
| Paving | Paving Equipment | 1 | 7.00 | 132 | 0.36 |
| Paving | Rollers | 1 | 7.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

## **Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | 1 | 3.00 | 0.00 | 88.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 1,678.00 | 14.70 | 6.90 | 33.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 10 | 24.00 | 9.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 5 | 13.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 5.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

## 3.2 Demolition - 2021

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 9.4900e-003 | 0.0000 | 9.4900e-003 | 1.4400e-003 | 0.0000 | 1.4400e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 8.6000e-004 | 9.7100e-003 | 4.0200e-003 | 2.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.0000e-004 | 3.0000e-004 | 0.0000 | 1.3795 | 1.3795 | 4.5000e-004 | 0.0000 | 1.3907 |
| **Total** | **8.6000e-004** | **9.7100e-003** | **4.0200e-003** | **2.0000e-005** | **9.4900e-003** | **3.2000e-004** | **9.8100e-003** | **1.4400e-003** | **3.0000e-004** | **1.7400e-003** | **0.0000** | **1.3795** | **1.3795** | **4.5000e-004** | **0.0000** | **1.3907** |

## 3.2 Demolition - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 3.7000e-004 | 0.0122 | 2.8400e-003 | 3.0000e-005 | 7.6000e-004 | 4.0000e-005 | 7.9000e-004 | 2.1000e-004 | 3.0000e-005 | 2.4000e-004 | 0.0000 | 3.3541 | 3.3541 | 2.3000e-004 | 0.0000 | 3.3599 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 3.0000e-005 | 2.8000e-004 | 0.0000 | 8.0000e-005 | 0.0000 | 8.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0742 | 0.0742 | 0.0000 | 0.0000 | 0.0742 |
| **Total** | **4.0000e-004** | **0.0122** | **3.1200e-003** | **3.0000e-005** | **8.4000e-004** | **4.0000e-005** | **8.7000e-004** | **2.3000e-004** | **3.0000e-005** | **2.6000e-004** | **0.0000** | **3.4283** | **3.4283** | **2.3000e-004** | **0.0000** | **3.4341** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 4.2700e-003 | 0.0000 | 4.2700e-003 | 6.5000e-004 | 0.0000 | 6.5000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 8.6000e-004 | 9.7100e-003 | 4.0200e-003 | 2.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.0000e-004 | 3.0000e-004 | 0.0000 | 1.3795 | 1.3795 | 4.5000e-004 | 0.0000 | 1.3907 |
| **Total** | **8.6000e-004** | **9.7100e-003** | **4.0200e-003** | **2.0000e-005** | **4.2700e-003** | **3.2000e-004** | **4.5900e-003** | **6.5000e-004** | **3.0000e-004** | **9.5000e-004** | **0.0000** | **1.3795** | **1.3795** | **4.5000e-004** | **0.0000** | **1.3907** |

## 3.2 Demolition - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 3.7000e-004 | 0.0122 | 2.8400e-003 | 3.0000e-005 | 7.6000e-004 | 4.0000e-005 | 7.9000e-004 | 2.1000e-004 | 3.0000e-005 | 2.4000e-004 | 0.0000 | 3.3541 | 3.3541 | 2.3000e-004 | 0.0000 | 3.3599 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 3.0000e-005 | 2.8000e-004 | 0.0000 | 8.0000e-005 | 0.0000 | 8.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0742 | 0.0742 | 0.0000 | 0.0000 | 0.0742 |
| **Total** | **4.0000e-004** | **0.0122** | **3.1200e-003** | **3.0000e-005** | **8.4000e-004** | **4.0000e-005** | **8.7000e-004** | **2.3000e-004** | **3.0000e-005** | **2.6000e-004** | **0.0000** | **3.4283** | **3.4283** | **2.3000e-004** | **0.0000** | **3.4341** |

## 3.3 Grading - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0146 | 0.0000 | 0.0146 | 7.7600e-003 | 0.0000 | 7.7600e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0156 | 0.1694 | 0.1136 | 3.4000e-004 | | 6.3600e-003 | 6.3600e-003 | | 5.8500e-003 | 5.8500e-003 | 0.0000 | 29.8091 | 29.8091 | 9.6400e-003 | 0.0000 | 30.0501 |
| **Total** | **0.0156** | **0.1694** | **0.1136** | **3.4000e-004** | **0.0146** | **6.3600e-003** | **0.0210** | **7.7600e-003** | **5.8500e-003** | **0.0136** | **0.0000** | **29.8091** | **29.8091** | **9.6400e-003** | **0.0000** | **30.0501** |

## 3.3 Grading - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0108 | 0.3332 | 0.0820 | 1.0200e-003 | 0.0238 | 1.1200e-003 | 0.0249 | 6.5300e-003 | 1.0800e-003 | 7.6100e-003 | 0.0000 | 100.1776 | 100.1776 | 6.5100e-003 | 0.0000 | 100.3403 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 8.0000e-004 | 6.2000e-004 | 7.0000e-003 | 2.0000e-005 | 2.0300e-003 | 2.0000e-005 | 2.0400e-003 | 5.4000e-004 | 2.0000e-005 | 5.5000e-004 | 0.0000 | 1.8295 | 1.8295 | 5.0000e-005 | 0.0000 | 1.8308 |
| **Total** | **0.0116** | **0.3338** | **0.0890** | **1.0400e-003** | **0.0258** | **1.1400e-003** | **0.0270** | **7.0700e-003** | **1.1000e-003** | **8.1600e-003** | **0.0000** | **102.0071** | **102.0071** | **6.5600e-003** | **0.0000** | **102.1712** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 6.5700e-003 | 0.0000 | 6.5700e-003 | 3.4900e-003 | 0.0000 | 3.4900e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0156 | 0.1694 | 0.1136 | 3.4000e-004 | | 6.3600e-003 | 6.3600e-003 | | 5.8500e-003 | 5.8500e-003 | 0.0000 | 29.8091 | 29.8091 | 9.6400e-003 | 0.0000 | 30.0501 |
| **Total** | **0.0156** | **0.1694** | **0.1136** | **3.4000e-004** | **6.5700e-003** | **6.3600e-003** | **0.0129** | **3.4900e-003** | **5.8500e-003** | **9.3400e-003** | **0.0000** | **29.8091** | **29.8091** | **9.6400e-003** | **0.0000** | **30.0501** |

## 3.3 Grading - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0108 | 0.3332 | 0.0820 | 1.0200e-003 | 0.0238 | 1.1200e-003 | 0.0249 | 6.5300e-003 | 1.0800e-003 | 7.6100e-003 | 0.0000 | 100.1776 | 100.1776 | 6.5100e-003 | 0.0000 | 100.3403 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 8.0000e-004 | 6.2000e-004 | 7.0000e-003 | 2.0000e-005 | 2.0300e-003 | 2.0000e-005 | 2.0400e-003 | 5.4000e-004 | 2.0000e-005 | 5.5000e-004 | 0.0000 | 1.8295 | 1.8295 | 5.0000e-005 | 0.0000 | 1.8308 |
| **Total** | **0.0116** | **0.3338** | **0.0890** | **1.0400e-003** | **0.0258** | **1.1400e-003** | **0.0270** | **7.0700e-003** | **1.1000e-003** | **8.1600e-003** | **0.0000** | **102.0071** | **102.0071** | **6.5600e-003** | **0.0000** | **102.1712** |

## 3.4 Building Construction - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.1030 | 0.7977 | 0.8729 | 1.4300e-003 | | 0.0407 | 0.0407 | | 0.0393 | 0.0393 | 0.0000 | 120.0254 | 120.0254 | 0.0219 | 0.0000 | 120.5717 |
| **Total** | **0.1030** | **0.7977** | **0.8729** | **1.4300e-003** | | **0.0407** | **0.0407** | | **0.0393** | **0.0393** | **0.0000** | **120.0254** | **120.0254** | **0.0219** | **0.0000** | **120.5717** |

## 3.4 Building Construction - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.2600e-003 | 0.0400 | 0.0108 | 1.0000e-004 | 2.5500e-003 | 8.0000e-005 | 2.6300e-003 | 7.4000e-004 | 8.0000e-005 | 8.1000e-004 | 0.0000 | 9.9831 | 9.9831 | 6.1000e-004 | 0.0000 | 9.9984 |
| Worker | 4.6500e-003 | 3.6200e-003 | 0.0408 | 1.2000e-004 | 0.0118 | 1.0000e-004 | 0.0119 | 3.1400e-003 | 9.0000e-005 | 3.2300e-003 | 0.0000 | 10.6803 | 10.6803 | 3.1000e-004 | 0.0000 | 10.6882 |
| **Total** | **5.9100e-003** | **0.0436** | **0.0517** | **2.2000e-004** | **0.0144** | **1.8000e-004** | **0.0146** | **3.8800e-003** | **1.7000e-004** | **4.0400e-003** | **0.0000** | **20.6634** | **20.6634** | **9.2000e-004** | **0.0000** | **20.6866** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.1030 | 0.7977 | 0.8729 | 1.4300e-003 | | 0.0407 | 0.0407 | | 0.0393 | 0.0393 | 0.0000 | 120.0253 | 120.0253 | 0.0219 | 0.0000 | 120.5716 |
| **Total** | **0.1030** | **0.7977** | **0.8729** | **1.4300e-003** | | **0.0407** | **0.0407** | | **0.0393** | **0.0393** | **0.0000** | **120.0253** | **120.0253** | **0.0219** | **0.0000** | **120.5716** |

## 3.4 Building Construction - 2021

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.2600e-003 | 0.0400 | 0.0108 | 1.0000e-004 | 2.5500e-003 | 8.0000e-005 | 2.6300e-003 | 7.4000e-004 | 8.0000e-005 | 8.1000e-004 | 0.0000 | 9.9831 | 9.9831 | 6.1000e-004 | 0.0000 | 9.9984 |
| Worker | 4.6500e-003 | 3.6200e-003 | 0.0408 | 1.2000e-004 | 0.0118 | 1.0000e-004 | 0.0119 | 3.1400e-003 | 9.0000e-005 | 3.2300e-003 | 0.0000 | 10.6803 | 10.6803 | 3.1000e-004 | 0.0000 | 10.6882 |
| **Total** | **5.9100e-003** | **0.0436** | **0.0517** | **2.2000e-004** | **0.0144** | **1.8000e-004** | **0.0146** | **3.8800e-003** | **1.7000e-004** | **4.0400e-003** | **0.0000** | **20.6634** | **20.6634** | **9.2000e-004** | **0.0000** | **20.6866** |

## 3.4 Building Construction - 2022

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.1262 | 0.9791 | 1.1627 | 1.9300e-003 | | 0.0474 | 0.0474 | | 0.0458 | 0.0458 | 0.0000 | 161.3886 | 161.3886 | 0.0288 | 0.0000 | 162.1089 |
| **Total** | **0.1262** | **0.9791** | **1.1627** | **1.9300e-003** | | **0.0474** | **0.0474** | | **0.0458** | **0.0458** | **0.0000** | **161.3886** | **161.3886** | **0.0288** | **0.0000** | **162.1089** |

## 3.4 Building Construction - 2022

**Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.5900e-003 | 0.0511 | 0.0138 | 1.4000e-004 | 3.4300e-003 | 1.0000e-004 | 3.5300e-003 | 9.9000e-004 | 9.0000e-005 | 1.0800e-003 | 0.0000 | 13.3039 | 13.3039 | 7.9000e-004 | 0.0000 | 13.3237 |
| Worker | 5.8600e-003 | 4.3900e-003 | 0.0506 | 1.5000e-004 | 0.0159 | 1.3000e-004 | 0.0160 | 4.2300e-003 | 1.2000e-004 | 4.3400e-003 | 0.0000 | 13.8543 | 13.8543 | 3.8000e-004 | 0.0000 | 13.8639 |
| **Total** | **7.4500e-003** | **0.0554** | **0.0644** | **2.9000e-004** | **0.0193** | **2.3000e-004** | **0.0196** | **5.2200e-003** | **2.1000e-004** | **5.4200e-003** | **0.0000** | **27.1582** | **27.1582** | **1.1700e-003** | **0.0000** | **27.1876** |

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.1262 | 0.9791 | 1.1627 | 1.9300e-003 | | 0.0474 | 0.0474 | | 0.0458 | 0.0458 | 0.0000 | 161.3884 | 161.3884 | 0.0288 | 0.0000 | 162.1087 |
| **Total** | **0.1262** | **0.9791** | **1.1627** | **1.9300e-003** | | **0.0474** | **0.0474** | | **0.0458** | **0.0458** | **0.0000** | **161.3884** | **161.3884** | **0.0288** | **0.0000** | **162.1087** |

## 3.4 Building Construction - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.5900e-003 | 0.0511 | 0.0138 | 1.4000e-004 | 3.4300e-003 | 1.0000e-004 | 3.5300e-003 | 9.9000e-004 | 9.0000e-005 | 1.0800e-003 | 0.0000 | 13.3039 | 13.3039 | 7.9000e-004 | 0.0000 | 13.3237 |
| Worker | 5.8600e-003 | 4.3900e-003 | 0.0506 | 1.5000e-004 | 0.0159 | 1.3000e-004 | 0.0160 | 4.2300e-003 | 1.2000e-004 | 4.3400e-003 | 0.0000 | 13.8543 | 13.8543 | 3.8000e-004 | 0.0000 | 13.8639 |
| **Total** | **7.4500e-003** | **0.0554** | **0.0644** | **2.9000e-004** | **0.0193** | **2.3000e-004** | **0.0196** | **5.2200e-003** | **2.1000e-004** | **5.4200e-003** | **0.0000** | **27.1582** | **27.1582** | **1.1700e-003** | **0.0000** | **27.1876** |

## 3.5 Paving - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 3.3400e-003 | 0.0329 | 0.0427 | 7.0000e-005 | | 1.6900e-003 | 1.6900e-003 | | 1.5500e-003 | 1.5500e-003 | 0.0000 | 5.7272 | 5.7272 | 1.8100e-003 | 0.0000 | 5.7725 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **3.3400e-003** | **0.0329** | **0.0427** | **7.0000e-005** | | **1.6900e-003** | **1.6900e-003** | | **1.5500e-003** | **1.5500e-003** | **0.0000** | **5.7272** | **5.7272** | **1.8100e-003** | **0.0000** | **5.7725** |

## 3.5 Paving - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.6000e-004 | 2.0000e-004 | 2.2600e-003 | 1.0000e-005 | 7.1000e-004 | 1.0000e-005 | 7.2000e-004 | 1.9000e-004 | 1.0000e-005 | 1.9000e-004 | 0.0000 | 0.6202 | 0.6202 | 2.0000e-005 | 0.0000 | 0.6206 |
| **Total** | **2.6000e-004** | **2.0000e-004** | **2.2600e-003** | **1.0000e-005** | **7.1000e-004** | **1.0000e-005** | **7.2000e-004** | **1.9000e-004** | **1.0000e-005** | **1.9000e-004** | **0.0000** | **0.6202** | **0.6202** | **2.0000e-005** | **0.0000** | **0.6206** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 3.3400e-003 | 0.0329 | 0.0427 | 7.0000e-005 | | 1.6900e-003 | 1.6900e-003 | | 1.5500e-003 | 1.5500e-003 | 0.0000 | 5.7272 | 5.7272 | 1.8100e-003 | 0.0000 | 5.7725 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **3.3400e-003** | **0.0329** | **0.0427** | **7.0000e-005** | | **1.6900e-003** | **1.6900e-003** | | **1.5500e-003** | **1.5500e-003** | **0.0000** | **5.7272** | **5.7272** | **1.8100e-003** | **0.0000** | **5.7725** |

## 3.5 Paving - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.6000e-004 | 2.0000e-004 | 2.2600e-003 | 1.0000e-005 | 7.1000e-004 | 1.0000e-005 | 7.2000e-004 | 1.9000e-004 | 1.0000e-005 | 1.9000e-004 | 0.0000 | 0.6202 | 0.6202 | 2.0000e-005 | 0.0000 | 0.6206 |
| **Total** | **2.6000e-004** | **2.0000e-004** | **2.2600e-003** | **1.0000e-005** | **7.1000e-004** | **1.0000e-005** | **7.2000e-004** | **1.9000e-004** | **1.0000e-005** | **1.9000e-004** | **0.0000** | **0.6202** | **0.6202** | **2.0000e-005** | **0.0000** | **0.6206** |

## 3.6 Architectural Coating - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.1609 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 4.6000e-003 | 0.0317 | 0.0408 | 7.0000e-005 | | 1.8400e-003 | 1.8400e-003 | | 1.8400e-003 | 1.8400e-003 | 0.0000 | 5.7448 | 5.7448 | 3.7000e-004 | 0.0000 | 5.7542 |
| **Total** | **0.1655** | **0.0317** | **0.0408** | **7.0000e-005** | | **1.8400e-003** | **1.8400e-003** | | **1.8400e-003** | **1.8400e-003** | **0.0000** | **5.7448** | **5.7448** | **3.7000e-004** | **0.0000** | **5.7542** |

## 3.6 Architectural Coating - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.5000e-004 | 3.4000e-004 | 3.9200e-003 | 1.0000e-005 | 1.2300e-003 | 1.0000e-005 | 1.2400e-003 | 3.3000e-004 | 1.0000e-005 | 3.4000e-004 | 0.0000 | 1.0734 | 1.0734 | 3.0000e-005 | 0.0000 | 1.0742 |
| **Total** | **4.5000e-004** | **3.4000e-004** | **3.9200e-003** | **1.0000e-005** | **1.2300e-003** | **1.0000e-005** | **1.2400e-003** | **3.3000e-004** | **1.0000e-005** | **3.4000e-004** | **0.0000** | **1.0734** | **1.0734** | **3.0000e-005** | **0.0000** | **1.0742** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.1609 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 4.6000e-003 | 0.0317 | 0.0408 | 7.0000e-005 | | 1.8400e-003 | 1.8400e-003 | | 1.8400e-003 | 1.8400e-003 | 0.0000 | 5.7448 | 5.7448 | 3.7000e-004 | 0.0000 | 5.7542 |
| **Total** | **0.1655** | **0.0317** | **0.0408** | **7.0000e-005** | | **1.8400e-003** | **1.8400e-003** | | **1.8400e-003** | **1.8400e-003** | **0.0000** | **5.7448** | **5.7448** | **3.7000e-004** | **0.0000** | **5.7542** |

### 3.6 Architectural Coating - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.5000e-004 | 3.4000e-004 | 3.9200e-003 | 1.0000e-005 | 1.2300e-003 | 1.0000e-005 | 1.2400e-003 | 3.3000e-004 | 1.0000e-005 | 3.4000e-004 | 0.0000 | 1.0734 | 1.0734 | 3.0000e-005 | 0.0000 | 1.0742 |
| **Total** | **4.5000e-004** | **3.4000e-004** | **3.9200e-003** | **1.0000e-005** | **1.2300e-003** | **1.0000e-005** | **1.2400e-003** | **3.3000e-004** | **1.0000e-005** | **3.4000e-004** | **0.0000** | **1.0734** | **1.0734** | **3.0000e-005** | **0.0000** | **1.0742** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.2659 | 1.4021 | 3.6813 | 0.0135 | 1.1126 | 0.0112 | 1.1239 | 0.2983 | 0.0105 | 0.3087 | 0.0000 | 1,242.6374 | 1,242.6374 | 0.0638 | 0.0000 | 1,244.2333 |
| Unmitigated | 0.2659 | 1.4021 | 3.6813 | 0.0135 | 1.1126 | 0.0112 | 1.1239 | 0.2983 | 0.0105 | 0.3087 | 0.0000 | 1,242.6374 | 1,242.6374 | 0.0638 | 0.0000 | 1,244.2333 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Elementary School | 1,190.86 | 0.00 | 0.00 | 2,931,541 | 2,931,541 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | | |
| Total | 1,190.86 | 0.00 | 0.00 | 2,931,541 | 2,931,541 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Elementary School | 16.60 | 8.40 | 6.90 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |
| Enclosed Parking Structure | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Elementary School | 0.546501 | 0.044961 | 0.204016 | 0.120355 | 0.015740 | 0.006196 | 0.020131 | 0.030678 | 0.002515 | 0.002201 | 0.005142 | 0.000687 | 0.000876 |
| Enclosed Parking Structure | 0.546501 | 0.044961 | 0.204016 | 0.120355 | 0.015740 | 0.006196 | 0.020131 | 0.030678 | 0.002515 | 0.002201 | 0.005142 | 0.000687 | 0.000876 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 181.7257 | 181.7257 | 4.2900e-003 | 8.9000e-004 | 182.0976 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 181.7257 | 181.7257 | 4.2900e-003 | 8.9000e-004 | 182.0976 |
| NaturalGas Mitigated | 1.9100e-003 | 0.0174 | 0.0146 | 1.0000e-004 | | 1.3200e-003 | 1.3200e-003 | | 1.3200e-003 | 1.3200e-003 | 0.0000 | 18.8939 | 18.8939 | 3.6000e-004 | 3.5000e-004 | 19.0061 |
| NaturalGas Unmitigated | 1.9100e-003 | 0.0174 | 0.0146 | 1.0000e-004 | | 1.3200e-003 | 1.3200e-003 | | 1.3200e-003 | 1.3200e-003 | 0.0000 | 18.8939 | 18.8939 | 3.6000e-004 | 3.5000e-004 | 19.0061 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Elementary School | 354058 | 1.9100e-003 | 0.0174 | 0.0146 | 1.0000e-004 | | 1.3200e-003 | 1.3200e-003 | | 1.3200e-003 | 1.3200e-003 | 0.0000 | 18.8939 | 18.8939 | 3.6000e-004 | 3.5000e-004 | 19.0061 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **1.9100e-003** | **0.0174** | **0.0146** | **1.0000e-004** | | **1.3200e-003** | **1.3200e-003** | | **1.3200e-003** | **1.3200e-003** | **0.0000** | **18.8939** | **18.8939** | **3.6000e-004** | **3.5000e-004** | **19.0061** |

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Elementary School | 354058 | 1.9100e-003 | 0.0174 | 0.0146 | 1.0000e-004 | | 1.3200e-003 | 1.3200e-003 | | 1.3200e-003 | 1.3200e-003 | 0.0000 | 18.8939 | 18.8939 | 3.6000e-004 | 3.5000e-004 | 19.0061 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **1.9100e-003** | **0.0174** | **0.0146** | **1.0000e-004** | | **1.3200e-003** | **1.3200e-003** | | **1.3200e-003** | **1.3200e-003** | **0.0000** | **18.8939** | **18.8939** | **3.6000e-004** | **3.5000e-004** | **19.0061** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

|  | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr |  |  |  |
| Elementary School | 201540 | 112.2503 | 2.6500e-003 | 5.5000e-004 | 112.4800 |
| Enclosed Parking Structure | 124740 | 69.4754 | 1.6400e-003 | 3.4000e-004 | 69.6176 |
| **Total** |  | **181.7257** | **4.2900e-003** | **8.9000e-004** | **182.0976** |

**Mitigated**

|  | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr |  |  |  |
| Elementary School | 201540 | 112.2503 | 2.6500e-003 | 5.5000e-004 | 112.4800 |
| Enclosed Parking Structure | 124740 | 69.4754 | 1.6400e-003 | 3.4000e-004 | 69.6176 |
| **Total** |  | **181.7257** | **4.2900e-003** | **8.9000e-004** | **182.0976** |

# 6.0 Area Detail

---

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.1406 | 1.0000e-005 | 1.1400e-003 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 2.2100e-003 | 2.2100e-003 | 1.0000e-005 | 0.0000 | 2.3600e-003 |
| Unmitigated | 0.1406 | 1.0000e-005 | 1.1400e-003 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 2.2100e-003 | 2.2100e-003 | 1.0000e-005 | 0.0000 | 2.3600e-003 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0161 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.1244 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.1000e-004 | 1.0000e-005 | 1.1400e-003 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 2.2100e-003 | 2.2100e-003 | 1.0000e-005 | 0.0000 | 2.3600e-003 |
| **Total** | **0.1406** | **1.0000e-005** | **1.1400e-003** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **2.2100e-003** | **2.2100e-003** | **1.0000e-005** | **0.0000** | **2.3600e-003** |

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0161 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.1244 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.1000e-004 | 1.0000e-005 | 1.1400e-003 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 2.2100e-003 | 2.2100e-003 | 1.0000e-005 | 0.0000 | 2.3600e-003 |
| **Total** | **0.1406** | **1.0000e-005** | **1.1400e-003** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **2.2100e-003** | **2.2100e-003** | **1.0000e-005** | **0.0000** | **2.3600e-003** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 23.1771 | 0.0327 | 8.7000e-004 | 24.2543 |
| Unmitigated | 23.1771 | 0.0327 | 8.7000e-004 | 24.2543 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Elementary School | 0.987055 / 2.53814 | 23.1771 | 0.0327 | 8.7000e-004 | 24.2543 |
| Enclosed Parking Structure | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **23.1771** | **0.0327** | **8.7000e-004** | **24.2543** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Elementary School | 0.987055 / 2.53814 | 23.1771 | 0.0327 | 8.7000e-004 | 24.2543 |
| Enclosed Parking Structure | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **23.1771** | **0.0327** | **8.7000e-004** | **24.2543** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 8.9824 | 0.5308 | 0.0000 | 22.2534 |
| Unmitigated | 8.9824 | 0.5308 | 0.0000 | 22.2534 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Elementary School | 44.25 | 8.9824 | 0.5308 | 0.0000 | 22.2534 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **8.9824** | **0.5308** | **0.0000** | **22.2534** |

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Elementary School | 44.25 | 8.9824 | 0.5308 | 0.0000 | 22.2534 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **8.9824** | **0.5308** | **0.0000** | **22.2534** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

### Fire Pumps and Emergency Generators

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

### Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

### User Defined Equipment

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# KIPP Academy

## Los Angeles-South Coast County, Summer

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Elementary School | 34.04 | 1000sqft | 0.78 | 34,044.00 | 0 |
| Enclosed Parking Structure | 55.00 | Space | 0.00 | 22,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 33 |
| **Climate Zone** | 11 | | | **Operational Year** | 2022 |
| **Utility Company** | Los Angeles Department of Water & Power | | | | |
| **CO2 Intensity (lb/MWhr)** | 1227.89 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 1.03 ac lot. 34,044 sf k-8 school. 55 parking spaces basement garage.

Construction Phase - 5 demo, 37 grad, 211 bldg, 10 pav, 45 coat

Off-road Equipment -

Off-road Equipment - crane, forklift, generator, backhoe, 3 welders, concrete pump, material handler, lift

Off-road Equipment - Loader1 loader

Off-road Equipment - dozer, drill rig, excavator, loader

Off-road Equipment - mixer, paver, roller, paving equip., backhoe

Trips and VMT - 33 mi haul route. 14 cy trucks export

Demolition - 887 tons asphalt debris

Grading - 11,750 cy

Vehicle Trips - 1,191 trips/day per traffic study

Construction Off-road Equipment Mitigation - Rule 403

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 5.00 | 45.00 |
| tblConstructionPhase | NumDays | 100.00 | 211.00 |
| tblConstructionPhase | NumDays | 10.00 | 5.00 |
| tblConstructionPhase | NumDays | 2.00 | 37.00 |
| tblConstructionPhase | NumDays | 5.00 | 10.00 |
| tblConstructionPhase | PhaseEndDate | 12/17/2021 | 9/5/2022 |
| tblConstructionPhase | PhaseEndDate | 12/3/2021 | 6/20/2022 |
| tblConstructionPhase | PhaseEndDate | 7/14/2021 | 7/7/2021 |
| tblConstructionPhase | PhaseEndDate | 7/16/2021 | 8/27/2021 |
| tblConstructionPhase | PhaseEndDate | 12/10/2021 | 7/4/2022 |
| tblConstructionPhase | PhaseStartDate | 12/11/2021 | 7/5/2022 |
| tblConstructionPhase | PhaseStartDate | 7/17/2021 | 8/30/2021 |

| | | | |
|---|---|---|---|
| tblConstructionPhase | PhaseStartDate | 7/15/2021 | 7/8/2021 |
| tblConstructionPhase | PhaseStartDate | 12/4/2021 | 6/21/2022 |
| tblGrading | MaterialExported | 0.00 | 11,750.00 |
| tblLandUse | LotAcreage | 0.49 | 0.00 |
| tblOffRoadEquipment | LoadFactor | 0.36 | 0.36 |
| tblOffRoadEquipment | LoadFactor | 0.50 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.36 | 0.36 |
| tblOffRoadEquipment | LoadFactor | 0.40 | 0.40 |
| tblOffRoadEquipment | LoadFactor | 0.31 | 0.31 |
| tblOffRoadEquipment | LoadFactor | 0.36 | 0.36 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Loaders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Bore/Drill Rigs |
| tblOffRoadEquipment | OffRoadEquipmentType | | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Loaders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Welders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Material Handling Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Aerial Lifts |
| tblOffRoadEquipment | OffRoadEquipmentType | | Paving Equipment |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 33.00 |
| tblTripsAndVMT | HaulingTripNumber | 1,469.00 | 1,678.00 |
| tblVehicleTrips | WD_TR | 15.43 | 34.98 |

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 2.4182 | 26.5109 | 20.5930 | 0.0748 | 4.1375 | 0.9087 | 4.2817 | 0.8073 | 0.8779 | 1.1824 | 0.0000 | 7,886.9843 | 7,886.9843 | 0.9618 | 0.0000 | 7,911.0283 |
| 2022 | 7.3736 | 17.0788 | 20.3255 | 0.0368 | 0.3259 | 0.7864 | 1.1123 | 0.0877 | 0.7600 | 0.8477 | 0.0000 | 3,449.4313 | 3,449.4313 | 0.5464 | 0.0000 | 3,463.0902 |
| **Maximum** | **7.3736** | **26.5109** | **20.5930** | **0.0748** | **4.1375** | **0.9087** | **4.2817** | **0.8073** | **0.8779** | **1.1824** | **0.0000** | **7,886.9843** | **7,886.9843** | **0.9618** | **0.0000** | **7,911.0283** |

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 2.4182 | 26.5109 | 20.5930 | 0.0748 | 2.0496 | 0.9087 | 2.1938 | 0.5767 | 0.8779 | 0.9657 | 0.0000 | 7,886.9843 | 7,886.9843 | 0.9618 | 0.0000 | 7,911.0283 |
| 2022 | 7.3736 | 17.0788 | 20.3255 | 0.0368 | 0.3259 | 0.7864 | 1.1123 | 0.0877 | 0.7600 | 0.8477 | 0.0000 | 3,449.4313 | 3,449.4313 | 0.5464 | 0.0000 | 3,463.0902 |
| **Maximum** | **7.3736** | **26.5109** | **20.5930** | **0.0748** | **2.0496** | **0.9087** | **2.1938** | **0.5767** | **0.8779** | **0.9657** | **0.0000** | **7,886.9843** | **7,886.9843** | **0.9618** | **0.0000** | **7,911.0283** |

| | **ROG** | **NOx** | **CO** | **SO2** | **Fugitive PM10** | **Exhaust PM10** | **PM10 Total** | **Fugitive PM2.5** | **Exhaust PM2.5** | **PM2.5 Total** | **Bio- CO2** | **NBio-CO2** | **Total CO2** | **CH4** | **N20** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **46.78** | **0.00** | **38.71** | **25.76** | **0.00** | **10.68** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

### **Unmitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.7709 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |
| Energy | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 | | 7.2300e-003 | 7.2300e-003 | | 7.2300e-003 | 7.2300e-003 | | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |
| Mobile | 2.1558 | 10.3326 | 29.4614 | 0.1073 | 8.7273 | 0.0864 | 8.8137 | 2.3356 | 0.0806 | 2.4162 | | 10,916.3369 | 10,916.3369 | 0.5453 | | 10,929.9703 |
| **Total** | **2.9371** | **10.4278** | **29.5504** | **0.1078** | **8.7273** | **0.0937** | **8.8210** | **2.3356** | **0.0879** | **2.4234** | | **11,030.4764** | **11,030.4764** | **0.5476** | **2.0900e-003** | **11,044.7893** |

### **Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.7709 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |
| Energy | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 | | 7.2300e-003 | 7.2300e-003 | | 7.2300e-003 | 7.2300e-003 | | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |
| Mobile | 2.1558 | 10.3326 | 29.4614 | 0.1073 | 8.7273 | 0.0864 | 8.8137 | 2.3356 | 0.0806 | 2.4162 | | 10,916.3369 | 10,916.3369 | 0.5453 | | 10,929.9703 |
| **Total** | **2.9371** | **10.4278** | **29.5504** | **0.1078** | **8.7273** | **0.0937** | **8.8210** | **2.3356** | **0.0879** | **2.4234** | | **11,030.4764** | **11,030.4764** | **0.5476** | **2.0900e-003** | **11,044.7893** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Demolition | Demolition | 7/1/2021 | 7/7/2021 | 5 | 5 | |
| 2 | Grading | Grading | 7/8/2021 | 8/27/2021 | 5 | 37 | |
| 3 | Building Construction | Building Construction | 8/30/2021 | 6/20/2022 | 5 | 211 | |
| 4 | Paving | Paving | 6/21/2022 | 7/4/2022 | 5 | 10 | |
| 5 | Architectural Coating | Architectural Coating | 7/5/2022 | 9/5/2022 | 5 | 45 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 51,066; Non-Residential Outdoor: 17,022; Striped Parking Area: 1,320 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | 0 | 8.00 | 81 | 0.73 |
| Demolition | Rubber Tired Dozers | 0 | 1.00 | 247 | 0.40 |
| Grading | Concrete/Industrial Saws | 0 | 8.00 | 81 | 0.73 |
| Demolition | Tractors/Loaders/Backhoes | 0 | 6.00 | 97 | 0.37 |
| Demolition | Rubber Tired Loaders | 1 | 8.00 | 203 | 0.36 |
| Grading | Bore/Drill Rigs | 1 | 6.00 | 221 | 0.50 |
| Grading | Excavators | 1 | 6.00 | 158 | 0.38 |
| Grading | Rubber Tired Dozers | 1 | 1.00 | 247 | 0.40 |
| Grading | Rubber Tired Loaders | 1 | 8.00 | 203 | 0.36 |
| Grading | Tractors/Loaders/Backhoes | 0 | 6.00 | 97 | 0.37 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Cranes | 1 | 4.00 | 231 | 0.29 |
| Building Construction | Forklifts | 1 | 6.00 | 89 | 0.20 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |
| Building Construction | Pumps | 1 | 6.00 | 84 | 0.74 |
| Building Construction | Other Material Handling Equipment | 1 | 6.00 | 168 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Building Construction | Aerial Lifts | 1 | 6.00 | 63 | 0.31 |
| Paving | Cement and Mortar Mixers | 1 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 7.00 | 130 | 0.42 |
| Paving | Paving Equipment | 1 | 7.00 | 132 | 0.36 |
| Paving | Rollers | 1 | 7.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

## **Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | 1 | 3.00 | 0.00 | 88.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 1,678.00 | 14.70 | 6.90 | 33.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 10 | 24.00 | 9.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 5 | 13.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 5.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

## 3.2 Demolition - 2021

**Unmitigated Construction On-Site**

|  | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day |  |  |  |  |  |  |  |  |  | lb/day |  |  |  |  |  |
| Fugitive Dust |  |  |  |  | 3.7962 | 0.0000 | 3.7962 | 0.5748 | 0.0000 | 0.5748 |  |  | 0.0000 |  |  | 0.0000 |
| Off-Road | 0.3447 | 3.8831 | 1.6067 | 6.2800e-003 |  | 0.1295 | 0.1295 |  | 0.1191 | 0.1191 |  | 608.2524 | 608.2524 | 0.1967 |  | 613.1704 |
| **Total** | **0.3447** | **3.8831** | **1.6067** | **6.2800e-003** | **3.7962** | **0.1295** | **3.9257** | **0.5748** | **0.1191** | **0.6939** |  | **608.2524** | **608.2524** | **0.1967** |  | **613.1704** |

## 3.2 Demolition - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.1468 | 4.7211 | 1.1070 | 0.0137 | 0.3077 | 0.0145 | 0.3222 | 0.0844 | 0.0139 | 0.0982 | | 1,489.7454 | 1,489.7454 | 0.1011 | | 1,492.2729 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0129 | 8.8400e-003 | 0.1208 | 3.4000e-004 | 0.0335 | 2.7000e-004 | 0.0338 | 8.8900e-003 | 2.5000e-004 | 9.1400e-003 | | 34.1631 | 34.1631 | 1.0100e-003 | | 34.1883 |
| **Total** | **0.1596** | **4.7299** | **1.2278** | **0.0141** | **0.3413** | **0.0148** | **0.3560** | **0.0933** | **0.0141** | **0.1074** | | **1,523.9085** | **1,523.9085** | **0.1021** | | **1,526.4612** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 1.7083 | 0.0000 | 1.7083 | 0.2587 | 0.0000 | 0.2587 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3447 | 3.8831 | 1.6067 | 6.2800e-003 | | 0.1295 | 0.1295 | | 0.1191 | 0.1191 | 0.0000 | 608.2524 | 608.2524 | 0.1967 | | 613.1704 |
| **Total** | **0.3447** | **3.8831** | **1.6067** | **6.2800e-003** | **1.7083** | **0.1295** | **1.8378** | **0.2587** | **0.1191** | **0.3778** | **0.0000** | **608.2524** | **608.2524** | **0.1967** | | **613.1704** |

## 3.2 Demolition - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.1468 | 4.7211 | 1.1070 | 0.0137 | 0.3077 | 0.0145 | 0.3222 | 0.0844 | 0.0139 | 0.0982 | | 1,489.7454 | 1,489.7454 | 0.1011 | | 1,492.2729 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0129 | 8.8400e-003 | 0.1208 | 3.4000e-004 | 0.0335 | 2.7000e-004 | 0.0338 | 8.8900e-003 | 2.5000e-004 | 9.1400e-003 | | 34.1631 | 34.1631 | 1.0100e-003 | | 34.1883 |
| **Total** | **0.1596** | **4.7299** | **1.2278** | **0.0141** | **0.3413** | **0.0148** | **0.3560** | **0.0933** | **0.0141** | **0.1074** | | **1,523.9085** | **1,523.9085** | **0.1021** | | **1,526.4612** |

## 3.3 Grading - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.7887 | 0.0000 | 0.7887 | 0.4192 | 0.0000 | 0.4192 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.8429 | 9.1560 | 6.1408 | 0.0184 | | 0.3438 | 0.3438 | | 0.3163 | 0.3163 | | 1,776.1581 | 1,776.1581 | 0.5745 | | 1,790.5193 |
| **Total** | **0.8429** | **9.1560** | **6.1408** | **0.0184** | **0.7887** | **0.3438** | **1.1325** | **0.4192** | **0.3163** | **0.7356** | | **1,776.1581** | **1,776.1581** | **0.5745** | | **1,790.5193** |

## 3.3 Grading - 2021

### **Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.5773 | 17.3254 | 4.3684 | 0.0553 | 1.3078 | 0.0606 | 1.3684 | 0.3584 | 0.0579 | 0.4164 | | 5,996.949 2 | 5,996.949 2 | 0.3840 | | 6,006.548 2 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0429 | 0.0295 | 0.4028 | 1.1400e-003 | 0.1118 | 9.0000e-004 | 0.1127 | 0.0296 | 8.3000e-004 | 0.0305 | | 113.8770 | 113.8770 | 3.3600e-003 | | 113.9609 |
| **Total** | **0.6201** | **17.3549** | **4.7711** | **0.0564** | **1.4196** | **0.0615** | **1.4810** | **0.3881** | **0.0588** | **0.4469** | | **6,110.826 2** | **6,110.826 2** | **0.3873** | | **6,120.509 0** |

### **Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.3549 | 0.0000 | 0.3549 | 0.1887 | 0.0000 | 0.1887 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.8429 | 9.1560 | 6.1408 | 0.0184 | | 0.3438 | 0.3438 | | 0.3163 | 0.3163 | 0.0000 | 1,776.158 1 | 1,776.158 1 | 0.5745 | | 1,790.519 3 |
| **Total** | **0.8429** | **9.1560** | **6.1408** | **0.0184** | **0.3549** | **0.3438** | **0.6987** | **0.1887** | **0.3163** | **0.5050** | **0.0000** | **1,776.158 1** | **1,776.158 1** | **0.5745** | | **1,790.519 3** |

## 3.3 Grading - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.5773 | 17.3254 | 4.3684 | 0.0553 | 1.3078 | 0.0606 | 1.3684 | 0.3584 | 0.0579 | 0.4164 | | 5,996.9492 | 5,996.9492 | 0.3840 | | 6,006.5482 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0429 | 0.0295 | 0.4028 | 1.1400e-003 | 0.1118 | 9.0000e-004 | 0.1127 | 0.0296 | 8.3000e-004 | 0.0305 | | 113.8770 | 113.8770 | 3.3600e-003 | | 113.9609 |
| **Total** | **0.6201** | **17.3549** | **4.7711** | **0.0564** | **1.4196** | **0.0615** | **1.4810** | **0.3881** | **0.0588** | **0.4469** | | **6,110.8262** | **6,110.8262** | **0.3873** | | **6,120.5090** |

## 3.4 Building Construction - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.2879 | 17.7263 | 19.3979 | 0.0319 | | 0.9047 | 0.9047 | | 0.8742 | 0.8742 | | 2,940.1192 | 2,940.1192 | 0.5353 | | 2,953.5014 |
| **Total** | **2.2879** | **17.7263** | **19.3979** | **0.0319** | | **0.9047** | **0.9047** | | **0.8742** | **0.8742** | | **2,940.1192** | **2,940.1192** | **0.5353** | | **2,953.5014** |

## 3.4 Building Construction - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0274 | 0.8738 | 0.2284 | 2.3100e-003 | 0.0576 | 1.7900e-003 | 0.0594 | 0.0166 | 1.7100e-003 | 0.0183 | | 247.3926 | 247.3926 | 0.0146 | | 247.7569 |
| Worker | 0.1029 | 0.0707 | 0.9667 | 2.7400e-003 | 0.2683 | 2.1700e-003 | 0.2704 | 0.0711 | 2.0000e-003 | 0.0731 | | 273.3048 | 273.3048 | 8.0500e-003 | | 273.5061 |
| **Total** | **0.1302** | **0.9445** | **1.1951** | **5.0500e-003** | **0.3259** | **3.9600e-003** | **0.3298** | **0.0877** | **3.7100e-003** | **0.0914** | | **520.6973** | **520.6973** | **0.0226** | | **521.2630** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.2879 | 17.7263 | 19.3979 | 0.0319 | | 0.9047 | 0.9047 | | 0.8742 | 0.8742 | 0.0000 | 2,940.1192 | 2,940.1192 | 0.5353 | | 2,953.5014 |
| **Total** | **2.2879** | **17.7263** | **19.3979** | **0.0319** | | **0.9047** | **0.9047** | | **0.8742** | **0.8742** | **0.0000** | **2,940.1192** | **2,940.1192** | **0.5353** | | **2,953.5014** |

## 3.4 Building Construction - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0274 | 0.8738 | 0.2284 | 2.3100e-003 | 0.0576 | 1.7900e-003 | 0.0594 | 0.0166 | 1.7100e-003 | 0.0183 | | 247.3926 | 247.3926 | 0.0146 | | 247.7569 |
| Worker | 0.1029 | 0.0707 | 0.9667 | 2.7400e-003 | 0.2683 | 2.1700e-003 | 0.2704 | 0.0711 | 2.0000e-003 | 0.0731 | | 273.3048 | 273.3048 | 8.0500e-003 | | 273.5061 |
| **Total** | **0.1302** | **0.9445** | **1.1951** | **5.0500e-003** | **0.3259** | **3.9600e-003** | **0.3298** | **0.0877** | **3.7100e-003** | **0.0914** | | **520.6973** | **520.6973** | **0.0226** | | **521.2630** |

## 3.4 Building Construction - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.0856 | 16.1839 | 19.2175 | 0.0319 | | 0.7828 | 0.7828 | | 0.7566 | 0.7566 | | 2,940.5030 | 2,940.5030 | 0.5250 | | 2,953.6282 |
| **Total** | **2.0856** | **16.1839** | **19.2175** | **0.0319** | | **0.7828** | **0.7828** | | **0.7566** | **0.7566** | | **2,940.5030** | **2,940.5030** | **0.5250** | | **2,953.6282** |

## 3.4 Building Construction - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0257 | 0.8310 | 0.2161 | 2.2900e-003 | 0.0576 | 1.5600e-003 | 0.0592 | 0.0166 | 1.4900e-003 | 0.0181 | | 245.2373 | 245.2373 | 0.0141 | | 245.5891 |
| Worker | 0.0964 | 0.0639 | 0.8919 | 2.6500e-003 | 0.2683 | 2.1000e-003 | 0.2704 | 0.0711 | 1.9300e-003 | 0.0731 | | 263.6910 | 263.6910 | 7.2800e-003 | | 263.8729 |
| **Total** | **0.1220** | **0.8948** | **1.1080** | **4.9400e-003** | **0.3259** | **3.6600e-003** | **0.3295** | **0.0877** | **3.4200e-003** | **0.0912** | | **508.9283** | **508.9283** | **0.0214** | | **509.4620** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.0856 | 16.1839 | 19.2175 | 0.0319 | | 0.7828 | 0.7828 | | 0.7566 | 0.7566 | 0.0000 | 2,940.5030 | 2,940.5030 | 0.5250 | | 2,953.6282 |
| **Total** | **2.0856** | **16.1839** | **19.2175** | **0.0319** | | **0.7828** | **0.7828** | | **0.7566** | **0.7566** | **0.0000** | **2,940.5030** | **2,940.5030** | **0.5250** | | **2,953.6282** |

## 3.4 Building Construction - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0257 | 0.8310 | 0.2161 | 2.2900e-003 | 0.0576 | 1.5600e-003 | 0.0592 | 0.0166 | 1.4900e-003 | 0.0181 | | 245.2373 | 245.2373 | 0.0141 | | 245.5891 |
| Worker | 0.0964 | 0.0639 | 0.8919 | 2.6500e-003 | 0.2683 | 2.1000e-003 | 0.2704 | 0.0711 | 1.9300e-003 | 0.0731 | | 263.6910 | 263.6910 | 7.2800e-003 | | 263.8729 |
| **Total** | **0.1220** | **0.8948** | **1.1080** | **4.9400e-003** | **0.3259** | **3.6600e-003** | **0.3295** | **0.0877** | **3.4200e-003** | **0.0912** | | **508.9283** | **508.9283** | **0.0214** | | **509.4620** |

## 3.5 Paving - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6686 | 6.5888 | 8.5382 | 0.0132 | | 0.3370 | 0.3370 | | 0.3109 | 0.3109 | | 1,262.6247 | 1,262.6247 | 0.4000 | | 1,272.6256 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **0.6686** | **6.5888** | **8.5382** | **0.0132** | | **0.3370** | **0.3370** | | **0.3109** | **0.3109** | | **1,262.6247** | **1,262.6247** | **0.4000** | | **1,272.6256** |

## 3.5 Paving - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0522 | 0.0346 | 0.4831 | 1.4300e-003 | 0.1453 | 1.1400e-003 | 0.1465 | 0.0385 | 1.0500e-003 | 0.0396 | | 142.8326 | 142.8326 | 3.9400e-003 | | 142.9312 |
| **Total** | **0.0522** | **0.0346** | **0.4831** | **1.4300e-003** | **0.1453** | **1.1400e-003** | **0.1465** | **0.0385** | **1.0500e-003** | **0.0396** | | **142.8326** | **142.8326** | **3.9400e-003** | | **142.9312** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6686 | 6.5888 | 8.5382 | 0.0132 | | 0.3370 | 0.3370 | | 0.3109 | 0.3109 | 0.0000 | 1,262.6247 | 1,262.6247 | 0.4000 | | 1,272.6256 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **0.6686** | **6.5888** | **8.5382** | **0.0132** | | **0.3370** | **0.3370** | | **0.3109** | **0.3109** | **0.0000** | **1,262.6247** | **1,262.6247** | **0.4000** | | **1,272.6256** |

## 3.5 Paving - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0522 | 0.0346 | 0.4831 | 1.4300e-003 | 0.1453 | 1.1400e-003 | 0.1465 | 0.0385 | 1.0500e-003 | 0.0396 | | 142.8326 | 142.8326 | 3.9400e-003 | | 142.9312 |
| **Total** | **0.0522** | **0.0346** | **0.4831** | **1.4300e-003** | **0.1453** | **1.1400e-003** | **0.1465** | **0.0385** | **1.0500e-003** | **0.0396** | | **142.8326** | **142.8326** | **3.9400e-003** | | **142.9312** |

## 3.6 Architectural Coating - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 7.1490 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2045 | 1.4085 | 1.8136 | 2.9700e-003 | | 0.0817 | 0.0817 | | 0.0817 | 0.0817 | | 281.4481 | 281.4481 | 0.0183 | | 281.9062 |
| **Total** | **7.3536** | **1.4085** | **1.8136** | **2.9700e-003** | | **0.0817** | **0.0817** | | **0.0817** | **0.0817** | | **281.4481** | **281.4481** | **0.0183** | | **281.9062** |

## 3.6 Architectural Coating - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0201 | 0.0133 | 0.1858 | 5.5000e-004 | 0.0559 | 4.4000e-004 | 0.0563 | 0.0148 | 4.0000e-004 | 0.0152 | | 54.9356 | 54.9356 | 1.5200e-003 | | 54.9735 |
| **Total** | **0.0201** | **0.0133** | **0.1858** | **5.5000e-004** | **0.0559** | **4.4000e-004** | **0.0563** | **0.0148** | **4.0000e-004** | **0.0152** | | **54.9356** | **54.9356** | **1.5200e-003** | | **54.9735** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 7.1490 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2045 | 1.4085 | 1.8136 | 2.9700e-003 | | 0.0817 | 0.0817 | | 0.0817 | 0.0817 | 0.0000 | 281.4481 | 281.4481 | 0.0183 | | 281.9062 |
| **Total** | **7.3536** | **1.4085** | **1.8136** | **2.9700e-003** | | **0.0817** | **0.0817** | | **0.0817** | **0.0817** | **0.0000** | **281.4481** | **281.4481** | **0.0183** | | **281.9062** |

## 3.6 Architectural Coating - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0201 | 0.0133 | 0.1858 | 5.5000e-004 | 0.0559 | 4.4000e-004 | 0.0563 | 0.0148 | 4.0000e-004 | 0.0152 | | 54.9356 | 54.9356 | 1.5200e-003 | | 54.9735 |
| **Total** | **0.0201** | **0.0133** | **0.1858** | **5.5000e-004** | **0.0559** | **4.4000e-004** | **0.0563** | **0.0148** | **4.0000e-004** | **0.0152** | | **54.9356** | **54.9356** | **1.5200e-003** | | **54.9735** |

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 2.1558 | 10.3326 | 29.4614 | 0.1073 | 8.7273 | 0.0864 | 8.8137 | 2.3356 | 0.0806 | 2.4162 | | 10,916.3369 | 10,916.3369 | 0.5453 | | 10,929.9703 |
| Unmitigated | 2.1558 | 10.3326 | 29.4614 | 0.1073 | 8.7273 | 0.0864 | 8.8137 | 2.3356 | 0.0806 | 2.4162 | | 10,916.3369 | 10,916.3369 | 0.5453 | | 10,929.9703 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Elementary School | 1,190.86 | 0.00 | 0.00 | 2,931,541 | 2,931,541 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | | |
| Total | 1,190.86 | 0.00 | 0.00 | 2,931,541 | 2,931,541 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Elementary School | 16.60 | 8.40 | 6.90 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |
| Enclosed Parking Structure | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Elementary School | 0.546501 | 0.044961 | 0.204016 | 0.120355 | 0.015740 | 0.006196 | 0.020131 | 0.030678 | 0.002515 | 0.002201 | 0.005142 | 0.000687 | 0.000876 |
| Enclosed Parking Structure | 0.546501 | 0.044961 | 0.204016 | 0.120355 | 0.015740 | 0.006196 | 0.020131 | 0.030678 | 0.002515 | 0.002201 | 0.005142 | 0.000687 | 0.000876 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

|  | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day |  |  |  |  |  |  |  |  |  | lb/day |  |  |  |  |  |
| NaturalGas Mitigated | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 |  | 7.2300e-003 | 7.2300e-003 |  | 7.2300e-003 | 7.2300e-003 |  | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |
| NaturalGas Unmitigated | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 |  | 7.2300e-003 | 7.2300e-003 |  | 7.2300e-003 | 7.2300e-003 |  | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Elementary School | 970.021 | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 | | 7.2300e-003 | 7.2300e-003 | | 7.2300e-003 | 7.2300e-003 | | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0105** | **0.0951** | **0.0799** | **5.7000e-004** | | **7.2300e-003** | **7.2300e-003** | | **7.2300e-003** | **7.2300e-003** | | **114.1201** | **114.1201** | **2.1900e-003** | **2.0900e-003** | **114.7983** |

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Elementary School | 0.970021 | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 | | 7.2300e-003 | 7.2300e-003 | | 7.2300e-003 | 7.2300e-003 | | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0105** | **0.0951** | **0.0799** | **5.7000e-004** | | **7.2300e-003** | **7.2300e-003** | | **7.2300e-003** | **7.2300e-003** | | **114.1201** | **114.1201** | **2.1900e-003** | **2.0900e-003** | **114.7983** |

# 6.0 Area Detail

---

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.7709 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |
| Unmitigated | 0.7709 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0881 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.6819 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 8.5000e-004 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |
| **Total** | **0.7709** | **8.0000e-005** | **9.1100e-003** | **0.0000** | | **3.0000e-005** | **3.0000e-005** | | **3.0000e-005** | **3.0000e-005** | | **0.0195** | **0.0195** | **5.0000e-005** | | **0.0208** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0881 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.6819 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 8.5000e-004 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |
| **Total** | **0.7709** | **8.0000e-005** | **9.1100e-003** | **0.0000** | | **3.0000e-005** | **3.0000e-005** | | **3.0000e-005** | **3.0000e-005** | | **0.0195** | **0.0195** | **5.0000e-005** | | **0.0208** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# KIPP Academy

## Los Angeles-South Coast County, Winter

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Elementary School | 34.04 | 1000sqft | 0.78 | 34,044.00 | 0 |
| Enclosed Parking Structure | 55.00 | Space | 0.00 | 22,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 33 |
| **Climate Zone** | 11 | | | **Operational Year** | 2022 |

**Utility Company** Los Angeles Department of Water & Power

| | | | | | |
|---|---|---|---|---|---|
| **CO2 Intensity (lb/MWhr)** | 1227.89 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 1.03 ac lot. 34,044 sf k-8 school. 55 parking spaces basement garage.

Construction Phase - 5 demo, 37 grad, 211 bldg, 10 pav, 45 coat

Off-road Equipment -

Off-road Equipment - crane, forklift, generator, backhoe, 3 welders, concrete pump, material handler, lift

Off-road Equipment - Loader1 loader

Off-road Equipment - dozer, drill rig, excavator, loader

Off-road Equipment - mixer, paver, roller, paving equip., backhoe

Trips and VMT - 33 mi haul route. 14 cy trucks export

Demolition - 887 tons asphalt debris

Grading - 11,750 cy

Vehicle Trips - 1,191 trips/day per traffic study

Construction Off-road Equipment Mitigation - Rule 403

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 5.00 | 45.00 |
| tblConstructionPhase | NumDays | 100.00 | 211.00 |
| tblConstructionPhase | NumDays | 10.00 | 5.00 |
| tblConstructionPhase | NumDays | 2.00 | 37.00 |
| tblConstructionPhase | NumDays | 5.00 | 10.00 |
| tblConstructionPhase | PhaseEndDate | 12/17/2021 | 9/5/2022 |
| tblConstructionPhase | PhaseEndDate | 12/3/2021 | 6/20/2022 |
| tblConstructionPhase | PhaseEndDate | 7/14/2021 | 7/7/2021 |
| tblConstructionPhase | PhaseEndDate | 7/16/2021 | 8/27/2021 |
| tblConstructionPhase | PhaseEndDate | 12/10/2021 | 7/4/2022 |
| tblConstructionPhase | PhaseStartDate | 12/11/2021 | 7/5/2022 |
| tblConstructionPhase | PhaseStartDate | 7/17/2021 | 8/30/2021 |

| | | | |
|---|---|---|---|
| tblConstructionPhase | PhaseStartDate | 7/15/2021 | 7/8/2021 |
| tblConstructionPhase | PhaseStartDate | 12/4/2021 | 6/21/2022 |
| tblGrading | MaterialExported | 0.00 | 11,750.00 |
| tblLandUse | LotAcreage | 0.49 | 0.00 |
| tblOffRoadEquipment | LoadFactor | 0.36 | 0.36 |
| tblOffRoadEquipment | LoadFactor | 0.50 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.36 | 0.36 |
| tblOffRoadEquipment | LoadFactor | 0.40 | 0.40 |
| tblOffRoadEquipment | LoadFactor | 0.31 | 0.31 |
| tblOffRoadEquipment | LoadFactor | 0.36 | 0.36 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Loaders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Bore/Drill Rigs |
| tblOffRoadEquipment | OffRoadEquipmentType | | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Loaders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Welders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Material Handling Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Aerial Lifts |
| tblOffRoadEquipment | OffRoadEquipmentType | | Paving Equipment |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 33.00 |
| tblTripsAndVMT | HaulingTripNumber | 1,469.00 | 1,678.00 |
| tblVehicleTrips | WD_TR | 15.43 | 34.98 |

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 2.4311 | 26.8649 | 20.5344 | 0.0741 | 4.1375 | 0.9088 | 4.2819 | 0.8073 | 0.8780 | 1.1829 | 0.0000 | 7,813.8329 | 7,813.8329 | 0.9707 | 0.0000 | 7,838.1000 |
| 2022 | 7.3760 | 17.0833 | 20.2707 | 0.0366 | 0.3259 | 0.7865 | 1.1124 | 0.0877 | 0.7600 | 0.8478 | 0.0000 | 3,427.2730 | 3,427.2730 | 0.5468 | 0.0000 | 3,440.9437 |
| **Maximum** | **7.3760** | **26.8649** | **20.5344** | **0.0741** | **4.1375** | **0.9088** | **4.2819** | **0.8073** | **0.8780** | **1.1829** | **0.0000** | **7,813.8329** | **7,813.8329** | **0.9707** | **0.0000** | **7,838.1000** |

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 2.4311 | 26.8649 | 20.5344 | 0.0741 | 2.0496 | 0.9088 | 2.1940 | 0.5767 | 0.8780 | 0.9657 | 0.0000 | 7,813.8329 | 7,813.8329 | 0.9707 | 0.0000 | 7,838.1000 |
| 2022 | 7.3760 | 17.0833 | 20.2707 | 0.0366 | 0.3259 | 0.7865 | 1.1124 | 0.0877 | 0.7600 | 0.8478 | 0.0000 | 3,427.2730 | 3,427.2730 | 0.5468 | 0.0000 | 3,440.9437 |
| **Maximum** | **7.3760** | **26.8649** | **20.5344** | **0.0741** | **2.0496** | **0.9088** | **2.1940** | **0.5767** | **0.8780** | **0.9657** | **0.0000** | **7,813.8329** | **7,813.8329** | **0.9707** | **0.0000** | **7,838.1000** |

| | **ROG** | **NOx** | **CO** | **SO2** | **Fugitive PM10** | **Exhaust PM10** | **PM10 Total** | **Fugitive PM2.5** | **Exhaust PM2.5** | **PM2.5 Total** | **Bio- CO2** | **NBio-CO2** | **Total CO2** | **CH4** | **N20** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **46.78** | **0.00** | **38.71** | **25.76** | **0.00** | **10.70** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

### **Unmitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.7709 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |
| Energy | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 | | 7.2300e-003 | 7.2300e-003 | | 7.2300e-003 | 7.2300e-003 | | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |
| Mobile | 2.0923 | 10.5882 | 27.9038 | 0.1021 | 8.7273 | 0.0868 | 8.8141 | 2.3356 | 0.0810 | 2.4166 | | 10,391.4413 | 10,391.4413 | 0.5434 | | 10,405.0253 |
| **Total** | **2.8737** | **10.6833** | **27.9928** | **0.1026** | **8.7273** | **0.0941** | **8.8214** | **2.3356** | **0.0883** | **2.4238** | | **10,505.5809** | **10,505.5809** | **0.5456** | **2.0900e-003** | **10,519.8443** |

### **Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.7709 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |
| Energy | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 | | 7.2300e-003 | 7.2300e-003 | | 7.2300e-003 | 7.2300e-003 | | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |
| Mobile | 2.0923 | 10.5882 | 27.9038 | 0.1021 | 8.7273 | 0.0868 | 8.8141 | 2.3356 | 0.0810 | 2.4166 | | 10,391.4413 | 10,391.4413 | 0.5434 | | 10,405.0253 |
| **Total** | **2.8737** | **10.6833** | **27.9928** | **0.1026** | **8.7273** | **0.0941** | **8.8214** | **2.3356** | **0.0883** | **2.4238** | | **10,505.5809** | **10,505.5809** | **0.5456** | **2.0900e-003** | **10,519.8443** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Demolition | Demolition | 7/1/2021 | 7/7/2021 | 5 | 5 | |
| 2 | Grading | Grading | 7/8/2021 | 8/27/2021 | 5 | 37 | |
| 3 | Building Construction | Building Construction | 8/30/2021 | 6/20/2022 | 5 | 211 | |
| 4 | Paving | Paving | 6/21/2022 | 7/4/2022 | 5 | 10 | |
| 5 | Architectural Coating | Architectural Coating | 7/5/2022 | 9/5/2022 | 5 | 45 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 51,066; Non-Residential Outdoor: 17,022; Striped Parking Area: 1,320 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | 0 | 8.00 | 81 | 0.73 |
| Demolition | Rubber Tired Dozers | 0 | 1.00 | 247 | 0.40 |
| Grading | Concrete/Industrial Saws | 0 | 8.00 | 81 | 0.73 |
| Demolition | Tractors/Loaders/Backhoes | 0 | 6.00 | 97 | 0.37 |
| Demolition | Rubber Tired Loaders | 1 | 8.00 | 203 | 0.36 |
| Grading | Bore/Drill Rigs | 1 | 6.00 | 221 | 0.50 |
| Grading | Excavators | 1 | 6.00 | 158 | 0.38 |
| Grading | Rubber Tired Dozers | 1 | 1.00 | 247 | 0.40 |
| Grading | Rubber Tired Loaders | 1 | 8.00 | 203 | 0.36 |
| Grading | Tractors/Loaders/Backhoes | 0 | 6.00 | 97 | 0.37 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Cranes | 1 | 4.00 | 231 | 0.29 |
| Building Construction | Forklifts | 1 | 6.00 | 89 | 0.20 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |
| Building Construction | Pumps | 1 | 6.00 | 84 | 0.74 |
| Building Construction | Other Material Handling Equipment | 1 | 6.00 | 168 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Building Construction | Aerial Lifts | 1 | 6.00 | 63 | 0.31 |
| Paving | Cement and Mortar Mixers | 1 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 7.00 | 130 | 0.42 |
| Paving | Paving Equipment | 1 | 7.00 | 132 | 0.36 |
| Paving | Rollers | 1 | 7.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

## **Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | 1 | 3.00 | 0.00 | 88.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 1,678.00 | 14.70 | 6.90 | 33.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 10 | 24.00 | 9.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 5 | 13.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 5.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

## 3.2 Demolition - 2021

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 3.7962 | 0.0000 | 3.7962 | 0.5748 | 0.0000 | 0.5748 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3447 | 3.8831 | 1.6067 | 6.2800e-003 | | 0.1295 | 0.1295 | | 0.1191 | 0.1191 | | 608.2524 | 608.2524 | 0.1967 | | 613.1704 |
| **Total** | **0.3447** | **3.8831** | **1.6067** | **6.2800e-003** | **3.7962** | **0.1295** | **3.9257** | **0.5748** | **0.1191** | **0.6939** | | **608.2524** | **608.2524** | **0.1967** | | **613.1704** |

## 3.2 Demolition - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.1503 | 4.7789 | 1.1738 | 0.0135 | 0.3077 | 0.0147 | 0.3225 | 0.0844 | 0.0141 | 0.0984 | | 1,463.9383 | 1,463.9383 | 0.1047 | | 1,466.5549 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0143 | 9.7800e-003 | 0.1105 | 3.2000e-004 | 0.0335 | 2.7000e-004 | 0.0338 | 8.8900e-003 | 2.5000e-004 | 9.1400e-003 | | 32.1675 | 32.1675 | 9.5000e-004 | | 32.1912 |
| **Total** | **0.1646** | **4.7887** | **1.2843** | **0.0138** | **0.3413** | **0.0150** | **0.3563** | **0.0933** | **0.0143** | **0.1076** | | **1,496.1058** | **1,496.1058** | **0.1056** | | **1,498.7461** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 1.7083 | 0.0000 | 1.7083 | 0.2587 | 0.0000 | 0.2587 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3447 | 3.8831 | 1.6067 | 6.2800e-003 | | 0.1295 | 0.1295 | | 0.1191 | 0.1191 | 0.0000 | 608.2524 | 608.2524 | 0.1967 | | 613.1704 |
| **Total** | **0.3447** | **3.8831** | **1.6067** | **6.2800e-003** | **1.7083** | **0.1295** | **1.8378** | **0.2587** | **0.1191** | **0.3778** | **0.0000** | **608.2524** | **608.2524** | **0.1967** | | **613.1704** |

## 3.2 Demolition - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.1503 | 4.7789 | 1.1738 | 0.0135 | 0.3077 | 0.0147 | 0.3225 | 0.0844 | 0.0141 | 0.0984 | | 1,463.9383 | 1,463.9383 | 0.1047 | | 1,466.5549 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0143 | 9.7800e-003 | 0.1105 | 3.2000e-004 | 0.0335 | 2.7000e-004 | 0.0338 | 8.8900e-003 | 2.5000e-004 | 9.1400e-003 | | 32.1675 | 32.1675 | 9.5000e-004 | | 32.1912 |
| **Total** | **0.1646** | **4.7887** | **1.2843** | **0.0138** | **0.3413** | **0.0150** | **0.3563** | **0.0933** | **0.0143** | **0.1076** | | **1,496.1058** | **1,496.1058** | **0.1056** | | **1,498.7461** |

## 3.3 Grading - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.7887 | 0.0000 | 0.7887 | 0.4192 | 0.0000 | 0.4192 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.8429 | 9.1560 | 6.1408 | 0.0184 | | 0.3438 | 0.3438 | | 0.3163 | 0.3163 | | 1,776.1581 | 1,776.1581 | 0.5745 | | 1,790.5193 |
| **Total** | **0.8429** | **9.1560** | **6.1408** | **0.0184** | **0.7887** | **0.3438** | **1.1325** | **0.4192** | **0.3163** | **0.7356** | | **1,776.1581** | **1,776.1581** | **0.5745** | | **1,790.5193** |

## 3.3 Grading - 2021

### **Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.5863 | 17.6763 | 4.5298 | 0.0547 | 1.3078 | 0.0611 | 1.3689 | 0.3584 | 0.0585 | 0.4169 | | 5,930.4497 | 5,930.4497 | 0.3931 | | 5,940.2768 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0477 | 0.0326 | 0.3683 | 1.0800e-003 | 0.1118 | 9.0000e-004 | 0.1127 | 0.0296 | 8.3000e-004 | 0.0305 | | 107.2251 | 107.2251 | 3.1600e-003 | | 107.3040 |
| **Total** | **0.6340** | **17.7089** | **4.8981** | **0.0557** | **1.4196** | **0.0620** | **1.4816** | **0.3881** | **0.0593** | **0.4474** | | **6,037.6748** | **6,037.6748** | **0.3962** | | **6,047.5808** |

### **Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.3549 | 0.0000 | 0.3549 | 0.1887 | 0.0000 | 0.1887 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.8429 | 9.1560 | 6.1408 | 0.0184 | | 0.3438 | 0.3438 | | 0.3163 | 0.3163 | 0.0000 | 1,776.1581 | 1,776.1581 | 0.5745 | | 1,790.5193 |
| **Total** | **0.8429** | **9.1560** | **6.1408** | **0.0184** | **0.3549** | **0.3438** | **0.6987** | **0.1887** | **0.3163** | **0.5050** | **0.0000** | **1,776.1581** | **1,776.1581** | **0.5745** | | **1,790.5193** |

## 3.3 Grading - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.5863 | 17.6763 | 4.5298 | 0.0547 | 1.3078 | 0.0611 | 1.3689 | 0.3584 | 0.0585 | 0.4169 | | 5,930.4497 | 5,930.4497 | 0.3931 | | 5,940.2768 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0477 | 0.0326 | 0.3683 | 1.0800e-003 | 0.1118 | 9.0000e-004 | 0.1127 | 0.0296 | 8.3000e-004 | 0.0305 | | 107.2251 | 107.2251 | 3.1600e-003 | | 107.3040 |
| **Total** | **0.6340** | **17.7089** | **4.8981** | **0.0557** | **1.4196** | **0.0620** | **1.4816** | **0.3881** | **0.0593** | **0.4474** | | **6,037.6748** | **6,037.6748** | **0.3962** | | **6,047.5808** |

## 3.4 Building Construction - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.2879 | 17.7263 | 19.3979 | 0.0319 | | 0.9047 | 0.9047 | | 0.8742 | 0.8742 | | 2,940.1192 | 2,940.1192 | 0.5353 | | 2,953.5014 |
| **Total** | **2.2879** | **17.7263** | **19.3979** | **0.0319** | | **0.9047** | **0.9047** | | **0.8742** | **0.8742** | | **2,940.1192** | **2,940.1192** | **0.5353** | | **2,953.5014** |

## 3.4 Building Construction - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0287 | 0.8720 | 0.2527 | 2.2500e-003 | 0.0576 | 1.8400e-003 | 0.0595 | 0.0166 | 1.7600e-003 | 0.0184 | | 240.6110 | 240.6110 | 0.0155 | | 240.9993 |
| Worker | 0.1144 | 0.0783 | 0.8838 | 2.5800e-003 | 0.2683 | 2.1700e-003 | 0.2704 | 0.0711 | 2.0000e-003 | 0.0731 | | 257.3403 | 257.3403 | 7.5700e-003 | | 257.5296 |
| **Total** | **0.1432** | **0.9503** | **1.1365** | **4.8300e-003** | **0.3259** | **4.0100e-003** | **0.3299** | **0.0877** | **3.7600e-003** | **0.0915** | | **497.9512** | **497.9512** | **0.0231** | | **498.5289** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.2879 | 17.7263 | 19.3979 | 0.0319 | | 0.9047 | 0.9047 | | 0.8742 | 0.8742 | 0.0000 | 2,940.1192 | 2,940.1192 | 0.5353 | | 2,953.5014 |
| **Total** | **2.2879** | **17.7263** | **19.3979** | **0.0319** | | **0.9047** | **0.9047** | | **0.8742** | **0.8742** | **0.0000** | **2,940.1192** | **2,940.1192** | **0.5353** | | **2,953.5014** |

## 3.4 Building Construction - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0287 | 0.8720 | 0.2527 | 2.2500e-003 | 0.0576 | 1.8400e-003 | 0.0595 | 0.0166 | 1.7600e-003 | 0.0184 | | 240.6110 | 240.6110 | 0.0155 | | 240.9993 |
| Worker | 0.1144 | 0.0783 | 0.8838 | 2.5800e-003 | 0.2683 | 2.1700e-003 | 0.2704 | 0.0711 | 2.0000e-003 | 0.0731 | | 257.3403 | 257.3403 | 7.5700e-003 | | 257.5296 |
| **Total** | **0.1432** | **0.9503** | **1.1365** | **4.8300e-003** | **0.3259** | **4.0100e-003** | **0.3299** | **0.0877** | **3.7600e-003** | **0.0915** | | **497.9512** | **497.9512** | **0.0231** | | **498.5289** |

## 3.4 Building Construction - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.0856 | 16.1839 | 19.2175 | 0.0319 | | 0.7828 | 0.7828 | | 0.7566 | 0.7566 | | 2,940.5030 | 2,940.5030 | 0.5250 | | 2,953.6282 |
| **Total** | **2.0856** | **16.1839** | **19.2175** | **0.0319** | | **0.7828** | **0.7828** | | **0.7566** | **0.7566** | | **2,940.5030** | **2,940.5030** | **0.5250** | | **2,953.6282** |

## 3.4 Building Construction - 2022

**Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0270 | 0.8287 | 0.2392 | 2.2300e-003 | 0.0576 | 1.6100e-003 | 0.0592 | 0.0166 | 1.5400e-003 | 0.0181 | | 238.4733 | 238.4733 | 0.0150 | | 238.8479 |
| Worker | 0.1075 | 0.0707 | 0.8140 | 2.4900e-003 | 0.2683 | 2.1000e-003 | 0.2704 | 0.0711 | 1.9300e-003 | 0.0731 | | 248.2967 | 248.2967 | 6.8400e-003 | | 248.4676 |
| **Total** | **0.1344** | **0.8994** | **1.0532** | **4.7200e-003** | **0.3259** | **3.7100e-003** | **0.3296** | **0.0877** | **3.4700e-003** | **0.0912** | | **486.7699** | **486.7699** | **0.0218** | | **487.3155** |

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.0856 | 16.1839 | 19.2175 | 0.0319 | | 0.7828 | 0.7828 | | 0.7566 | 0.7566 | 0.0000 | 2,940.5030 | 2,940.5030 | 0.5250 | | 2,953.6282 |
| **Total** | **2.0856** | **16.1839** | **19.2175** | **0.0319** | | **0.7828** | **0.7828** | | **0.7566** | **0.7566** | **0.0000** | **2,940.5030** | **2,940.5030** | **0.5250** | | **2,953.6282** |

## 3.4 Building Construction - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0270 | 0.8287 | 0.2392 | 2.2300e-003 | 0.0576 | 1.6100e-003 | 0.0592 | 0.0166 | 1.5400e-003 | 0.0181 | | 238.4733 | 238.4733 | 0.0150 | | 238.8479 |
| Worker | 0.1075 | 0.0707 | 0.8140 | 2.4900e-003 | 0.2683 | 2.1000e-003 | 0.2704 | 0.0711 | 1.9300e-003 | 0.0731 | | 248.2967 | 248.2967 | 6.8400e-003 | | 248.4676 |
| **Total** | **0.1344** | **0.8994** | **1.0532** | **4.7200e-003** | **0.3259** | **3.7100e-003** | **0.3296** | **0.0877** | **3.4700e-003** | **0.0912** | | **486.7699** | **486.7699** | **0.0218** | | **487.3155** |

## 3.5 Paving - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6686 | 6.5888 | 8.5382 | 0.0132 | | 0.3370 | 0.3370 | | 0.3109 | 0.3109 | | 1,262.6247 | 1,262.6247 | 0.4000 | | 1,272.6256 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **0.6686** | **6.5888** | **8.5382** | **0.0132** | | **0.3370** | **0.3370** | | **0.3109** | **0.3109** | | **1,262.6247** | **1,262.6247** | **0.4000** | | **1,272.6256** |

## 3.5 Paving - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0582 | 0.0383 | 0.4409 | 1.3500e-003 | 0.1453 | 1.1400e-003 | 0.1465 | 0.0385 | 1.0500e-003 | 0.0396 | | 134.4940 | 134.4940 | 3.7000e-003 | | 134.5866 |
| **Total** | **0.0582** | **0.0383** | **0.4409** | **1.3500e-003** | **0.1453** | **1.1400e-003** | **0.1465** | **0.0385** | **1.0500e-003** | **0.0396** | | **134.4940** | **134.4940** | **3.7000e-003** | | **134.5866** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6686 | 6.5888 | 8.5382 | 0.0132 | | 0.3370 | 0.3370 | | 0.3109 | 0.3109 | 0.0000 | 1,262.6247 | 1,262.6247 | 0.4000 | | 1,272.6256 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **0.6686** | **6.5888** | **8.5382** | **0.0132** | | **0.3370** | **0.3370** | | **0.3109** | **0.3109** | **0.0000** | **1,262.6247** | **1,262.6247** | **0.4000** | | **1,272.6256** |

## 3.5 Paving - 2022

**Mitigated Construction Off-Site**

|  | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day |  |  |  |  |  |  |  |  |  | lb/day |  |  |  |  |  |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |  | 0.0000 | 0.0000 | 0.0000 |  | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |  | 0.0000 | 0.0000 | 0.0000 |  | 0.0000 |
| Worker | 0.0582 | 0.0383 | 0.4409 | 1.3500e-003 | 0.1453 | 1.1400e-003 | 0.1465 | 0.0385 | 1.0500e-003 | 0.0396 |  | 134.4940 | 134.4940 | 3.7000e-003 |  | 134.5866 |
| **Total** | **0.0582** | **0.0383** | **0.4409** | **1.3500e-003** | **0.1453** | **1.1400e-003** | **0.1465** | **0.0385** | **1.0500e-003** | **0.0396** |  | **134.4940** | **134.4940** | **3.7000e-003** |  | **134.5866** |

## 3.6 Architectural Coating - 2022

**Unmitigated Construction On-Site**

|  | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day |  |  |  |  |  |  |  |  |  | lb/day |  |  |  |  |  |
| Archit. Coating | 7.1490 |  |  |  |  | 0.0000 | 0.0000 |  | 0.0000 | 0.0000 |  |  | 0.0000 |  |  | 0.0000 |
| Off-Road | 0.2045 | 1.4085 | 1.8136 | 2.9700e-003 |  | 0.0817 | 0.0817 |  | 0.0817 | 0.0817 |  | 281.4481 | 281.4481 | 0.0183 |  | 281.9062 |
| **Total** | **7.3536** | **1.4085** | **1.8136** | **2.9700e-003** |  | **0.0817** | **0.0817** |  | **0.0817** | **0.0817** |  | **281.4481** | **281.4481** | **0.0183** |  | **281.9062** |

## 3.6 Architectural Coating - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0224 | 0.0147 | 0.1696 | 5.2000e-004 | 0.0559 | 4.4000e-004 | 0.0563 | 0.0148 | 4.0000e-004 | 0.0152 | | 51.7285 | 51.7285 | 1.4200e-003 | | 51.7641 |
| **Total** | **0.0224** | **0.0147** | **0.1696** | **5.2000e-004** | **0.0559** | **4.4000e-004** | **0.0563** | **0.0148** | **4.0000e-004** | **0.0152** | | **51.7285** | **51.7285** | **1.4200e-003** | | **51.7641** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 7.1490 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2045 | 1.4085 | 1.8136 | 2.9700e-003 | | 0.0817 | 0.0817 | | 0.0817 | 0.0817 | 0.0000 | 281.4481 | 281.4481 | 0.0183 | | 281.9062 |
| **Total** | **7.3536** | **1.4085** | **1.8136** | **2.9700e-003** | | **0.0817** | **0.0817** | | **0.0817** | **0.0817** | **0.0000** | **281.4481** | **281.4481** | **0.0183** | | **281.9062** |

### 3.6 Architectural Coating - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0224 | 0.0147 | 0.1696 | 5.2000e-004 | 0.0559 | 4.4000e-004 | 0.0563 | 0.0148 | 4.0000e-004 | 0.0152 | | 51.7285 | 51.7285 | 1.4200e-003 | | 51.7641 |
| **Total** | **0.0224** | **0.0147** | **0.1696** | **5.2000e-004** | **0.0559** | **4.4000e-004** | **0.0563** | **0.0148** | **4.0000e-004** | **0.0152** | | **51.7285** | **51.7285** | **1.4200e-003** | | **51.7641** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 2.0923 | 10.5882 | 27.9038 | 0.1021 | 8.7273 | 0.0868 | 8.8141 | 2.3356 | 0.0810 | 2.4166 | | 10,391.4413 | 10,391.4413 | 0.5434 | | 10,405.0253 |
| Unmitigated | 2.0923 | 10.5882 | 27.9038 | 0.1021 | 8.7273 | 0.0868 | 8.8141 | 2.3356 | 0.0810 | 2.4166 | | 10,391.4413 | 10,391.4413 | 0.5434 | | 10,405.0253 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Elementary School | 1,190.86 | 0.00 | 0.00 | 2,931,541 | 2,931,541 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | | |
| Total | 1,190.86 | 0.00 | 0.00 | 2,931,541 | 2,931,541 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Elementary School | 16.60 | 8.40 | 6.90 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |
| Enclosed Parking Structure | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Elementary School | 0.546501 | 0.044961 | 0.204016 | 0.120355 | 0.015740 | 0.006196 | 0.020131 | 0.030678 | 0.002515 | 0.002201 | 0.005142 | 0.000687 | 0.000876 |
| Enclosed Parking Structure | 0.546501 | 0.044961 | 0.204016 | 0.120355 | 0.015740 | 0.006196 | 0.020131 | 0.030678 | 0.002515 | 0.002201 | 0.005142 | 0.000687 | 0.000876 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 | | 7.2300e-003 | 7.2300e-003 | | 7.2300e-003 | 7.2300e-003 | | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |
| NaturalGas Unmitigated | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 | | 7.2300e-003 | 7.2300e-003 | | 7.2300e-003 | 7.2300e-003 | | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Elementary School | 970.021 | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 | | 7.2300e-003 | 7.2300e-003 | | 7.2300e-003 | 7.2300e-003 | | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0105** | **0.0951** | **0.0799** | **5.7000e-004** | | **7.2300e-003** | **7.2300e-003** | | **7.2300e-003** | **7.2300e-003** | | **114.1201** | **114.1201** | **2.1900e-003** | **2.0900e-003** | **114.7983** |

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Elementary School | 0.970021 | 0.0105 | 0.0951 | 0.0799 | 5.7000e-004 | | 7.2300e-003 | 7.2300e-003 | | 7.2300e-003 | 7.2300e-003 | | 114.1201 | 114.1201 | 2.1900e-003 | 2.0900e-003 | 114.7983 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0105** | **0.0951** | **0.0799** | **5.7000e-004** | | **7.2300e-003** | **7.2300e-003** | | **7.2300e-003** | **7.2300e-003** | | **114.1201** | **114.1201** | **2.1900e-003** | **2.0900e-003** | **114.7983** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.7709 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |
| Unmitigated | 0.7709 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0881 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.6819 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 8.5000e-004 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |
| **Total** | **0.7709** | **8.0000e-005** | **9.1100e-003** | **0.0000** | | **3.0000e-005** | **3.0000e-005** | | **3.0000e-005** | **3.0000e-005** | | **0.0195** | **0.0195** | **5.0000e-005** | | **0.0208** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0881 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.6819 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 8.5000e-004 | 8.0000e-005 | 9.1100e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | | 0.0195 | 0.0195 | 5.0000e-005 | | 0.0208 |
| **Total** | **0.7709** | **8.0000e-005** | **9.1100e-003** | **0.0000** | | **3.0000e-005** | **3.0000e-005** | | **3.0000e-005** | **3.0000e-005** | | **0.0195** | **0.0195** | **5.0000e-005** | | **0.0208** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# Fuel Consumption by Construction Phase Worksheet

# APPENDIX C-2

## KIPP LA Ignite Academy School Project Fuel Consumption by Construction Phase Worksheet

**Demolition**

| **diesel** | **MT CO2** | **gasoline** | **MT CO2** |
|---|---|---|---|
| off road | 1.39 | worker trips | 0.07 |
| hauling | 3.36 | | |
| **Subtotal** | **4.75** | **Subtotal** | **0.07** |

**Site Preparation**

| **diesel** | **MT CO2** | **gasoline** | **MT CO2** |
|---|---|---|---|
| off road | | worker trips | |
| hauling | | | |
| **Subtotal** | **0** | **Subtotal** | **0** |

**Grading**

| **diesel** | **MT CO2** | **gasoline** | **MT CO2** |
|---|---|---|---|
| off road | 30.05 | worker trips | 1.83 |
| hauling | 100.34 | | |
| **Subtotal** | **130.39** | **Subtotal** | **1.83** |

**Building Construction**

| **diesel** | **MT CO2** | **gasoline** | **MT CO2** |
|---|---|---|---|
| off road | 282.68 | worker trips | 24.55 |
| vendor | 23.32 | | |
| **Subtotal** | **306.00** | **Subtotal** | **24.55** |

**Paving**

| **diesel** | **MT CO2** | **gasoline** | **MT CO2** |
|---|---|---|---|
| off road | 5.77 | worker trips | 0.62 |
| hauling | 0 | | |
| **Subtotal** | **5.77** | **Subtotal** | **0.62** |

**Coating**

| **diesel** | **MT CO2** | **gasoline** | **MT CO2** |
|---|---|---|---|
| off road | 5.75 | worker trips | 1.07 |
| | | | |
| **Subtotal** | **5.75** | **Subtotal** | **1.07** |

| | **MT CO2** | **lbs CO2** | lbs per gallon |
|---|---|---|---|
| Total Diesel CO2 | 452.66 | 997,945 | 22.4 |
| (assumes vendors use diesel) | | | |
| Total Gasoline CO2 | 28.14 | 62,038 | 19.6 |
| | | | |
| **Total Diesel Gallons** | **44,551** | | |
| **Total Gasoline Gallons** | **3,165** | | |

MTCO2 emissions for each phase as reported in CalEEMod "Annual" output sheets from CalEEMod.2016.3.2 for KIPP LA Ignite Academy School Project

lbs per gallon factors from U.S. Energy Information Administration, Environment Carbon Dioxide Emissions Coefficients, Release date: February 2, 2016.

# APPENDIX D

# Phase I Cultural Resources Report

envicom
CORPORATION

April 10, 2019
(Revised December 7, 2020)

KLARE 15 LLC (Ignite)
3601 East 1st Street
Los Angeles, CA 90063

Attn: Mr. Kyle Salyer

**Subj: KIPP LA Ignite Academy Project**
**Cultural Resources Phase I *(Envicom Project #19-997-001)***

Dear Mr. Salyer:

In April 2019, Envicom Corporation (Envicom) prepared a Phase I Cultural Resource Assessment for the proposed development of the KIPP LA Ignite Academy Project (project) (**Figure 1** and **Figure 2**). The Project involves the construction of a new two-story, Type IIIB building to accommodate a public charter school facility with an underground parking garage, landscaping and multiple playground areas, on an existing, currently vacant, approximately 1.06 acre parcel in the Florence-Firestone Community Plan area of the County of Los Angeles. It will serve up to 600 students in Kindergarten through 8th grades. The proposed new construction will have a gross building area of 34,044 square feet that includes 17,925 square feet on the first floor and 16,119 square feet on the second floor. The building will be located entirely within the approximately 44,866 SF parcel. It will contain 24 classrooms, administrative offices, student and staff bathrooms, open play yards and a multipurpose room with integrated serving area. The site will be improved with one level of subterranean on-site parking, integrated student pick-up and drop-off area, outdoor recreation areas and landscaping throughout. The general location is as follows:

**United States Geological Survey (USGS) Quad: South Gate, CA**
Township: 2S/ Range: 13W/ Section: N/A
Lat: 33°57'55.19"N/ Long: 118°14'41.56"W

The Phase I Cultural Resource Assessment included a cultural resource record search conducted by the South Central Coastal Information Center (SCCIC) and a Native American cultural resource record search conducted by the California Native American Heritage Commission (NAHC). Both searches examined the project area, plus a 0.25-mile study area around the project. Additional databases examined during the Phase I Assessment included historic regional maps, Bureau of Land Management (BLM) General Land Office (GLO) survey maps, historic USGS maps, and historic Google Earth images. Historic aerial photographs were also examined where available.

The purpose of the record searches is to identify any known cultural resources previously recorded within or immediately adjacent to the proposed project area, to provide cultural resource context for the project from the examination of the surrounding "study area," and to assess the overall cultural resource sensitivity of the project region. A cultural resource is often defined as any building, structure, object, or archaeological site older than 50-years in age, and can include historic or prehistoric locations of human habitation.

The Phase I Assessment also included a physical assessment of the project property to determine if previously unrecorded cultural resources could be identified from surface observation. During the pedestrian field survey, any previously identified cultural resources from the SCCIC or other database searches are re-identified and assessed as necessary.

If new cultural resources are identified, the project is responsible for authorizing a qualified cultural resources expert to complete a State of California Department of Parks and Recreation (DPR) cultural resource site form that provides enough information on the site to present an adequate understanding of the site conditions and the site boundary. Also provided is a general time period of the newly identified cultural resource, any visible major site features, and the types of artifacts present on the surface.

Source: South Gate, California, U.S.G.S. 7.5 Minute Quadrangles

***Figure 1: Project Location in Los Angeles County, California, with the Study Area Shown (1981 South Gate Quadrangle Topographic Map).***

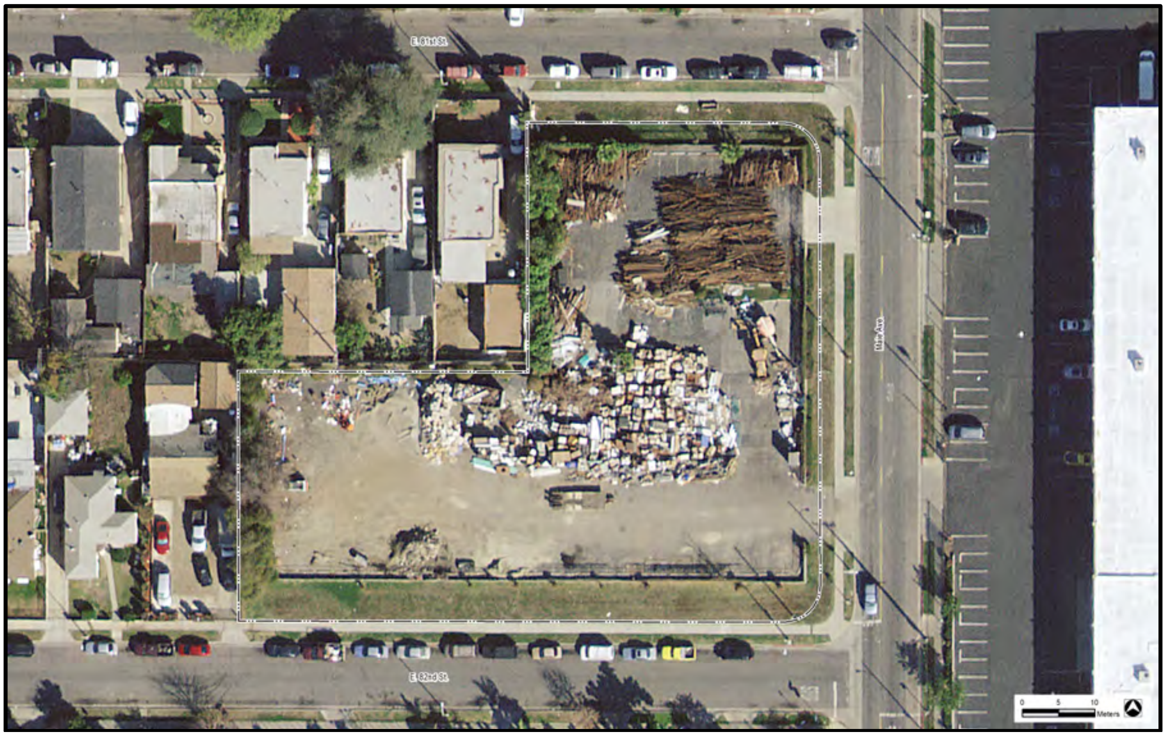

***Figure 2: Project Location in Los Angeles County, California, with the project property outlined.***

## RECORD SEARCH RESULTS

### *SCCIC and NAHC Record Searches*

On March 13, 2019, Envicom contacted the SCCIC with a request to search their database for cultural resources located within the project property, plus a 0.25-mile study area for regional cultural resource context (see **Figure 1**). The record search included a request for all complete site records for cultural resources within the project property, as well as copies of any cultural resource technical reports that intersected with the project property location.

Envicom received the cultural resource records search results from the SCCIC on April 3, 2019. The SCCIC record search identified that no previously identified cultural resources were located within the project property, however, two cultural resources were located within the 0.25-mile study area. P-19-187085 is a historic road. P-19-187087 is a historic electric railroad rail line and depot. Neither historic cultural resource is adjacent to the project property. Neither of the cultural resources, therefore, warrant further assessment as part of the project. The project property and immediate region surrounding the property was, therefore, determined to be ***not-sensitive for older historic nor for prehistoric cultural resources***, based on the SCCIC findings.

The SCCIC record search identified three (1) cultural resource reports (LA-008499) that involved the entire project property. The reports in question were *Phase I Archaeological Study for the South Regional High School No. 13, Community of Walnut Park, Unincorporated Los Angeles County, California* (Shaver, 2007). At the time, the Los Angeles Unified School District (LAUSD) was considering the construction of a new high school on the subject property and additional surrounding parcels. Examination of this report did not indicate any additional concerns warranting additional study. The Shaver report (2007) determined that the project site and local area was not-sensitive for cultural resources, and did not recommend further testing or construction phase monitoring for the proposed project.

Four additional cultural resource reports involved the surrounding study area, again with none warranting further consideration as part of this assessment. A list of all relevant cultural resource reports is provided in **Appendix A**.

The NAHC was also contacted on March 13, 2019, with a similar record search request. Envicom received the results from the NAHC record search on March 25, 2019, with negative findings.

Copies of the request letter to the SCCIC and to the NAHC are included in **Appendix B** of this report. The response letter from the NAHC is also included in **Appendix B**. The Author's resume is provided in **Appendix C**. Envicom did not contact Native American groups on the NAHC list, as communications with Tribal Group representatives under Assembly Bill-52 is the responsibility of the Lead/Permitting Agency if required as part of this project. The findings from the SCCIC as to the physical location and details of cultural resources are considered confidential by state law and are, therefore, not included in this report.

### *Historical Map and Image Database Search*

Examination of historic maps that contain the project area was negative for GLO maps, but positive for eighteen historic USGS maps, dating between 1896 and 1981. The 1896 Downey USGS map **(Figure 3)** shows limited local development, with only a few roads on a large grid pattern and spaced residences in the local area. None of the residences are on the project property, however, the historic road and railroad line is clearly shown to the east where the SCCIC report indicated it was located. The 1899 and 1902 Downey USGS maps show the same residential and road network, with no changes. The 1901 and 1904 Southern California USGS Maps show the same road network, but do not show and of the residences found on the other maps.

The 1923 Watts USGS map (**Figure 4**) shows much more extensive local residential development, except on the project property, which is undeveloped at that time. The older railroad appears to have been straightened so that it falls on the local road grid pattern, which may have been a deterrent to local development near the project property. The 1924 Watts USGS map shows no change from the previous year. The 1937 Watts USGS Map (**Figure 5**), however, does show increased development on the property and surrounding area, with added roads and residential structures. Though development increased in the local area, the subject property still remained undeveloped at this time. The 1943 Downey USGS map and all subsequent maps show solid urban in-filling.

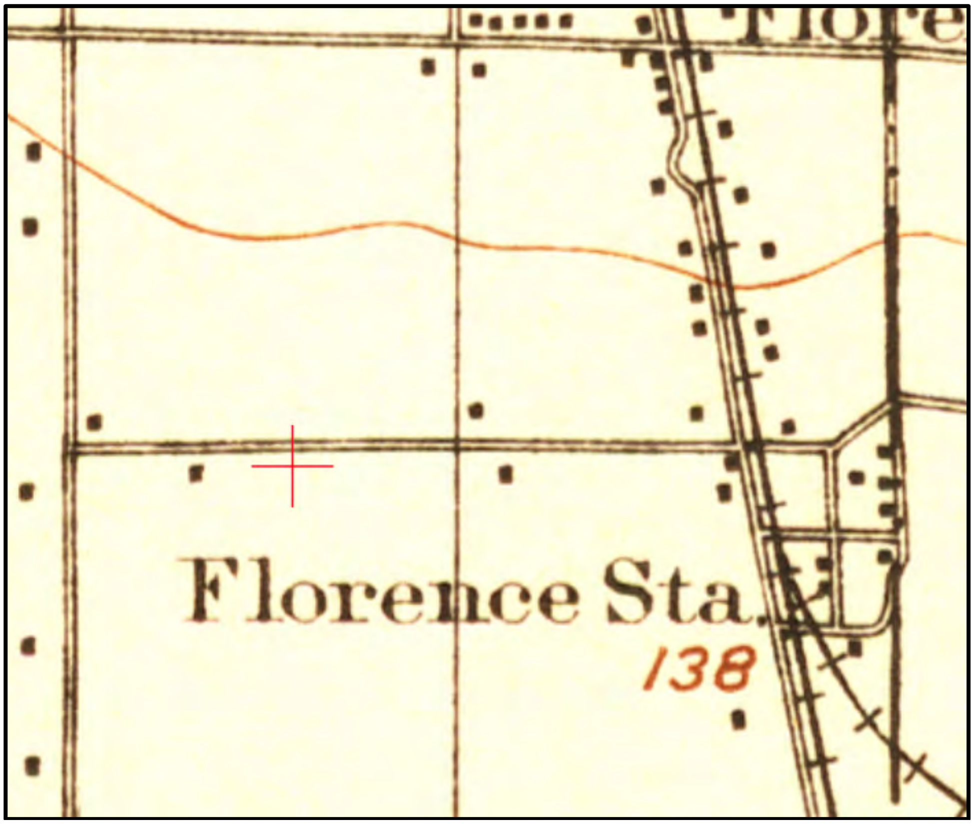

***Figure 3: The 1896 Downey USGS Map.***

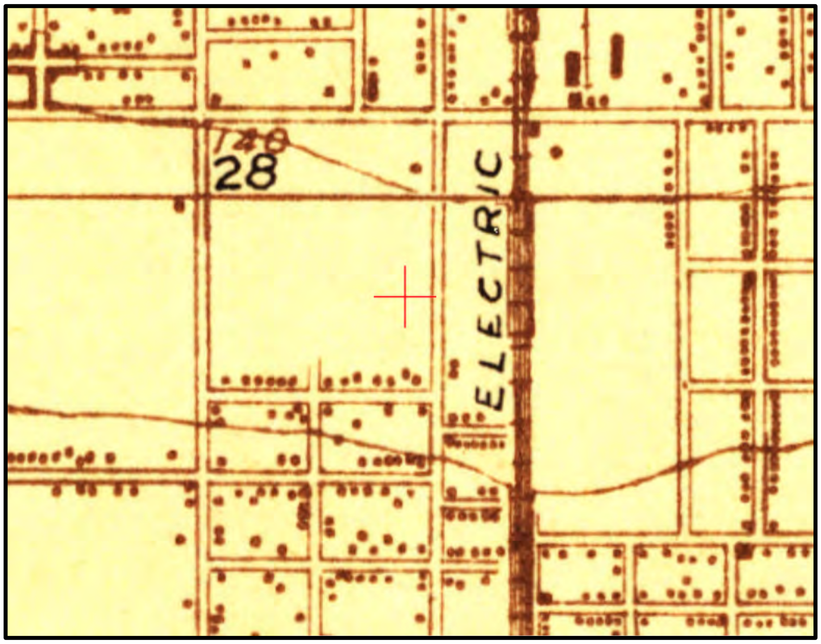

***Figure 4: The 1923 Watts USGS Map.***

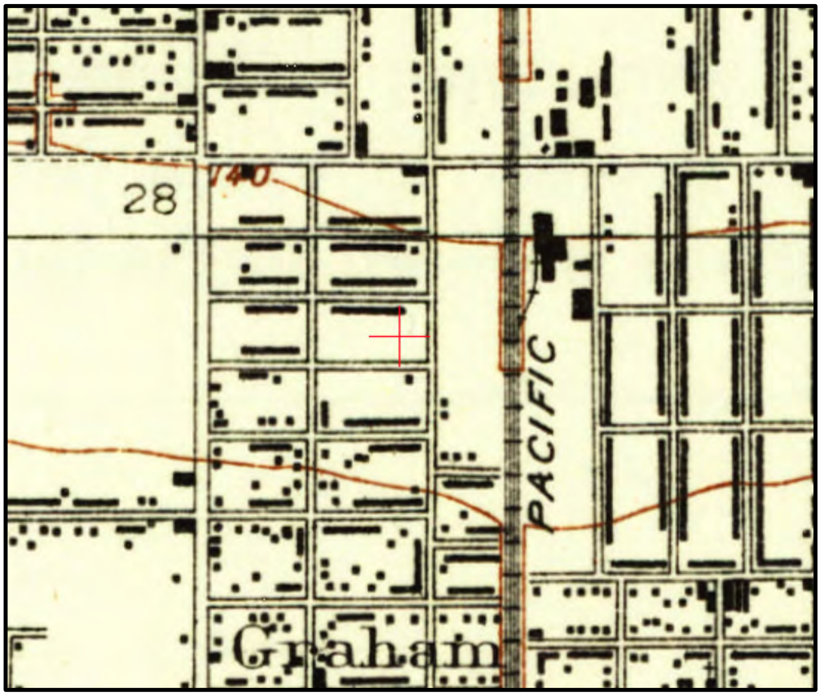

***Figure 5: The 1937 Watts USGS Map.***

The University of California Santa Barbara historic aerial photograph library contained a 1927 Aerial Photo (**Figure 6**), which shows much the same terrain as was found on the 1937 Watts USGS map. Limited local residential development is found surrounding the undeveloped project property. This photo is important as it pushes the extensive development shown on the Watts map back to at least the late 1920s. Indicating that the block containing the project property was first developed between 1923 and 1927.

A later 1938 aerial photograph of the project property (**Figure 7**) shows the site having a number of structures on the southeast corner of the property, as well as the development of the parcel to the east as a large warehouse or agricultural complex. The structures shown on this 1938 aerial photo, therefore, were constructed in 1937 or 1938, and represented the first buildings constructed on the property.

A later 1952 aerial photograph of the property (**Figure 8**) no longer shows the 1938 structures, and instead shows the site as being mostly undeveloped and used to store semi-truck trailers. A long, linear structure may be located along the frontage street at the northeast corner of the property. Since the warehouse complex to the east has significant development at this time, it appears that the lot was used to store transfer trucks between loads.

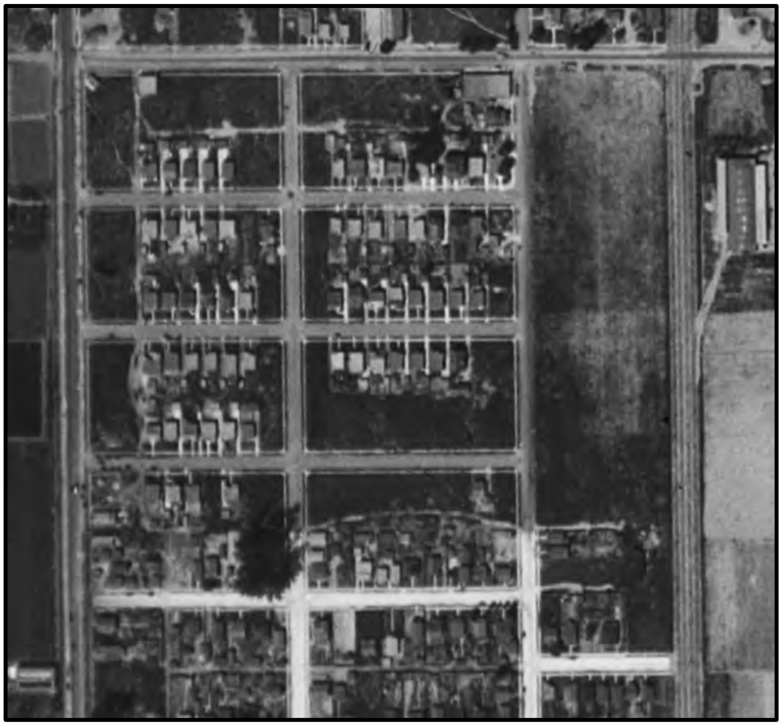

***Figure 6: The 1927 aerial photograph of project property (center of photo) (University of Santa Barbara Aerial Imagery Archives).***

***Figure 7: The 1938 aerial photograph of project property (center of photo) (University of Santa Barbara Aerial Imagery Archives).***

***Figure 8: The 1952 aerial photograph of project property (center of photo) (University of Santa Barbara Aerial Imagery Archives).***

Examination of historic Google Earth satellite images shows the local area from 1994 through 2018. The images show no change to the property, except for a transition from an empty lot with grass to parking spaces and truck storage in 2003, to construction material storage in 2017. Starting in 2018, it appears that the property was used as a trash transfer station.

The review of historic maps, satellite images, and aerial images indicated that the project property did contain older historic cultural resources built around 1937, with extensive local development that dated back to the 1920s. Therefore, the project property should be considered ***sensitive for older historic cultural resources*** as per the historic map and aerial photograph analysis.

### *Field Survey Results*

Envicom staff visited the project property on March 27, 2019. The entire property is paved, with no built environment resources, nor any open areas where the ground was visible **(Figure 9**, **Figure 10**, **Figure 11**, and **Figure 12)**. No early historic or prehistoric artifacts or features were observed on the ground surface. The pedestrian field survey findings were therefore, negative for cultural resources on the surface of the project property.

*Figure 9: The project property (facing west).*

***Figure 10:  The project property (facing east).***

***Figure 11:  The project property (facing northeast).***

***Figure 12: The project property (facing southwest).***

### *Paleontological Analysis*

Analysis of the USGS geological maps for the project property indicated that the entire region is recent alluvial material (Qa). Recent alluvial material is not sensitive for paleontological fossil resources and should not be further assessed or monitored as part of this project.

## RECOMMENDATIONS

### Cultural Resource Mitigation Measure Recommendations:

The results of the SCCIC and NAHC database record searches were negative for cultural resources within the project property. Surface assessment of the property was also negative for cultural resources. The paleontological assessment was also negative for fossil resource sensitivity. However, the analysis of historic USGS maps and aerial photographs for the area indicated early development for the project, both on the property and in the local area.

Envicom does not recommend further cultural resource assessment prior to construction. However, due to the project being within an area that is sensitive for older historic cultural resources, based on the historic map analysis, Envicom make the following recommendations:

### *Recommendation 1: Archaeological Monitoring*

An archaeological monitor that meets the Secretary of Interior qualifications will be on site during project grading of the top five (5)-feet of soil. The archaeological monitor will collect any older historic material that is uncovered through grading and can halt construction within 50-feet of a potentially significant cultural resource if necessary. Artifacts collected from a disturbed context or that do not warrant additional assessment can be collected without the need to halt grading. A final project Monitoring Report will be produced that discusses all monitoring activities and all artifacts recovered through monitoring.

If potentially significant intact deposits are encountered that are within an undisturbed context, then a cultural resource “discovery” protocol will be followed. If buried materials of potential-archaeological significance are accidentally discovered within an undisturbed context during any earth-moving operation associated with the proposed project, then all work in that area shall be halted or diverted away from the discovery to a distance of 50-feet until a qualified senior archaeologist can evaluate the nature and/or significance of the find(s).

Construction will not resume in the locality of the discovery until consultation between the senior archaeologist, the project manager, the Lead Agency, and all other concerned parties, takes place and reaches a conclusion approved by the Lead Agency. If a significant cultural resource is discovered during earth-moving, complete avoidance of the find is preferred. However, further survey work, evaluation tasks, or data recovery of the significant resource may be required if the resource cannot be avoided. Any individual reports, including the final project Monitoring Report, will be submitted to the SCCIC at the conclusion of the project.

### *Recommendation 2: Inadvertent Discovery of Human Remains.*

The inadvertent discovery of human remains is always a possibility during ground disturbances; State of California Health and Safety Code Section 7050.5 addresses these findings. This code section states that in the event human remains are uncovered, no further disturbance shall occur until the County Coroner has made a determination as to the origin and disposition of the remains pursuant to PRC Section 5097.98. The Coroner must be notified of the find immediately, together with the City and the property owner.

If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials and an appropriate re-internment site. The Lead Agency and a qualified archaeologist shall also establish additional appropriate mitigation measures for further site development, which may include additional archaeological and Native American monitoring or subsurface testing.

Sincerely,

Wayne

Dr. Wayne Bischoff
Director of Cultural Resources

## ATTACHMENTS:

Appendix A: List of Previous Completed Cultural Resource Reports in the Study Area
Appendix B: SCCIC and NAHC Request Letters and NAHC Response Letter
Appendix C: Resume of Dr. Wayne Bischoff (author)

# Appendix A

## List of Previous Completed Cultural Resource Reports in the Study Area

# Report List

| Report No. | Other IDs | Year | Author(s) | Title | Affiliation | Resources |
|---|---|---|---|---|---|---|
| LA-04836 | | 2000 | | Phase I Archaeological Survey Along Onshore Portions of the Global West Fiber Optic Cable Project | Science Applications International Corporation | |
| LA-05577 | | 1996 | Wells, Helen Fairman | Phase I Cultural Resources Investigation of Franklin Delano Roosevelt Park Los Angeles County , California | Helen Fairman Wells | |
| LA-08255 | | 2006 | Arrington, Cindy and Nancy Sikes | Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and Ii | SWCA Environmental Consultants, Inc. | |
| LA-08499 | | 2007 | Shaver, Noelle C.S. | A Phase I Archaeological Study for the South Region High School No. 13, Community of Walnut Park, Unincorporated Los Angeles County, California | Jones & Stokes Associates, Inc. | |
| LA-08853 | | 2006 | Bonner, Wayne H. | Cultural Resources Records Search and Site Visit Results for T-mobile Candidate La13082a (leon Elster), 8145 Beach Street, Los Angeles, Los Angeles County, California | Michael Brandman Associates | |

# Appendix B
# SCCIC and NAHC Request Letters and NAHC Response Letter

March 13, 2019

Stacy St. James, Coordinator
South Central Coastal Information Center
C.S.U.F, Dept. of Anthropology, MH 426
800 N. State College Blvd.
Fullerton, CA 92834-6846

Attn: Ms. St. James

**Subj: KIPP Academy Cultural Resources Phase I *(Envicom Project #19-997-001)***

Dear Ms. St. James:

Envicom is requesting an **EXPEDITED** record search of the SCCIC database for cultural resources within the attached Project area, plus a **0.25-mile study area**. The Project is located at:

**USGS Quad: South Gate, CA**
Township: 2S/ Range: 13W/ Section: N/A Lat: 33°57'55.19"N/ Long: 118°14'41.56"W

We are requesting the following: Resource Database Printout (list), Resource Database Printout (details), Resource Digital Database (spreadsheet), Report Database Printout (list), Report Database Printout (details), Report Digital Database (Spreadsheet), Resource Record Copies (project area only), Report Copies (project area only), OHP Historic Properties Directory, Archaeological Determinations of Eligibility, Los Angeles Cultural Monuments, and Historic Maps.

**We also request the complete reports and/or site records for any cultural resources found within the project area only, not the 0.25 mile study area.**

Envicom appreciates the SCCIC's help with this request. For correspondence or questions regarding this Project, please contact Wayne Bischoff at 818-879-4700 (wbischoff@envicomcorporation.com).

Sincerely,

Wayne

Dr. Wayne Bischoff
Director of Cultural Resources

**Attachment:** Project vicinity map on 1:24,000 topographic map

Source: South Gate, California, U.S.G.S. 7.5 Minute Quadrangles

March 13, 2019
Native American Heritage Commission
1550 Harbor Boulevard, Room 100
West Sacramento, CA 95691

**Subj: KIPP Academy Cultural Resources Phase I *(Envicom Project #19-997-001)***

Greetings,

Envicom is requesting a record review of your records for cultural resources for the Project area, plus a **0.25-mile buffer**. We also request a list of Tribal Group representatives for the area in case we need to contact their offices.

**The Project is located at:**

**USGS Quad: South Gate, CA**

Township: 2S/ Range: 13W/ Section: N/A
Lat: 33°57'55.19"N/ Long: 118°14'41.56"W

Envicom appreciates the NAHC's help with this request. For correspondence or questions regarding this Project, please contact Wayne Bischoff at 818-879-4700 (wbischoff@envicomcorporation.com).

Sincerely,

Wayne

Dr. Wayne Bischoff
Director of Cultural Resources

**Attachment:**
Project vicinity map on 1:24,000 topographic map

Source: South Gate, California, U.S.G.S. 7.5 Minute Quadrangles

**STATE OF CALIFORNIA** **Gavin Newsom, Governor**

**NATIVE AMERICAN HERITAGE COMMISSION**
**Cultural and Environmental Department**
**1550 Harbor Blvd., Suite 100**
**West Sacramento, CA 95691**
**Phone: (916) 373-3710**
**Email: nahc@nahc.ca.gov**
**Website: http://www.nahc.ca.gov**
**Twitter: @CA_NAHC**

March 25, 2019

Wayne Bischoff
Envicom

VIA Email to: wbischoff@envicomcorporation.com

RE: KIPP Academy Project, Los Angeles County

Dear Mr. Bischoff:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn

Steven Quinn
Associate Governmental Program Analyst

Attachment

# Native American Heritage Commission
# Native American Contact List
# Los Angeles County
# 3/25/2019

| | |
|---|---|
| ***Gabrieleno Band of Mission Indians - Kizh Nation***<br>Andrew Salas, Chairperson<br>P.O. Box 393<br>Covina, CA, 91723<br>Phone: (626) 926 - 4131<br>admin@gabrielenoindians.org | Gabrieleno |
| ***Gabrieleno/Tongva San Gabriel Band of Mission Indians***<br>Anthony Morales, Chairperson<br>P.O. Box 693<br>San Gabriel, CA, 91778<br>Phone: (626) 483 - 3564<br>Fax: (626) 286-1262<br>GTTribalcouncil@aol.com | Gabrieleno |
| ***Gabrielino /Tongva Nation***<br>Sandonne Goad, Chairperson<br>106 1/2 Judge John Aiso St., #231<br>Los Angeles, CA, 90012<br>Phone: (951) 807 - 0479<br>sgoad@gabrielino-tongva.com | Gabrielino |
| ***Gabrielino Tongva Indians of California Tribal Council***<br>Robert Dorame, Chairperson<br>P.O. Box 490<br>Bellflower, CA, 90707<br>Phone: (562) 761 - 6417<br>Fax: (562) 761-6417<br>gtongva@gmail.com | Gabrielino |
| ***Gabrielino-Tongva Tribe***<br>Charles Alvarez,<br>23454 Vanowen Street<br>West Hills, CA, 91307<br>Phone: (310) 403 - 6048<br>roadkingcharles@aol.com | Gabrielino |

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed KIPP Academy Project, Los Angeles County.

# Appendix C
# Resume of Dr. Wayne Bischoff (author)

# WAYNE BISCHOFF, PH.D.

**Professional Resume**
*Registered Professional Archaeologist (RPA #32450562)*

## *Education*

**2000 - Ph.D. in Anthropology (Historical Archaeology emphasis), Michigan State University, East Lansing, MI.**
**1991 - Bachelor of Arts (Anthropology, Education, and U.S. History), Purdue University, West Lafayette, IN.**

## *Professional Summary*

- **Over 25 Years' Experience Managing Projects.** Projects completed under the California Environmental Quality Act (CEQA), Section 106 and 110 of the National Historic Preservation Act (NHPA), the National Environmental Protection Act (NEPA), as well as numerous other federal and state laws and permit regulations regarding cultural resources.
- **Successful Performance History.** Dr. Bischoff has managed up to 60 professional staff in multiple offices covering several states. He has completed challenged projects, developed successful cultural resource teams, and is experienced with budgeting and scoping projects, successful proposal writing, client and agency relationships, and large project management.
- **Numerous Market Sectors.** Dr. Bischoff has completed projects involving solar, wind, geothermal, and electric transmission lines; defense, public works, education, residential, and commercial development; telecommunication, mining, transportation, parks and trails, and water resources; and storm and sewer lines, industrial sites, and railroads.
- **Planning and Compliance Document Author.** Dr. Bischoff has been an author on Environmental Impact Reports (EIR), Mitigated Negative Declarations (MND), Environmental Impact Statements (EIS), Environmental Assessments (EA), Programmatic Agreements (PA), Memorandum of Agreements (MOA), Initial Studies (IS), ACOE permits, and Memorandum of Understanding (MOU).
- **Extensive Experience with Federal, State, County, and Local Agencies.** SHPOs, FHA, NPS, and CALTRANS. Multiple Bureau of Land Management districts (Barstow, Bishop, Moreno Valley, Needles, El Centro, Nevada). The Army and National Guard, Marine Corps, Navy, and Air Force. The GSA, the USDA, Forest Service, California Coastal Commission, and several USCOE districts, LACDPW, LADWP, and many regional water districts. Fish and Wildlife, the CPUC, and the Counties of Los Angeles, San Bernardino, Riverside, Ventura, Imperial, Kern, Santa Clara, Inyo, Mono, Santa Barbara, San Diego, and Orange. Many port authorities, state agencies, and local governments.
- **Consultation and Communication with Many Tribal Groups.** Tribal groups include the Chumash, Gabrielino, Tongva, Washo, Piute, Quechan, Cahuilla, Tataviam, San Manuel, Morongo, and Luiseno. ***I am a professional expert in AB-52 compliance and Tribal consultation.***
- **Over 500 Cultural Resource Projects Completed in Eleven States**. Including hundreds of Phase I Surveys, Phase II Evaluations, Phase III Data Recoveries, and Monitoring Projects. I have authored cultural resource Monitoring Plans, Evaluation Plans, Data Recovery Plans, PRIMPs, Construction Phase Management Plans, WEAPs, Feasibility Studies, and National Register and National Landmark nominations. Reports have included Cultural, Paleontological, and Built Environment resources.
- **Historic Architecture Project Management.** Including built environment surveys and inventories, building assessments and evaluations, HABS/HAER mitigation reports, landscape studies, and indirect effects reports. Subjects have included houses, commercial buildings, roads, canals, and power lines.

*Professional Experience*

**Cultural Resources Director, Envicom Inc., Westlake Village, CA**
**February, 2014 – Current**

As Cultural Resources Director at Envicom, I complete all cultural resource, archaeological, and paleontological phase I studies, all cultural resource evaluations and data recoveries, Native American consultation, and built environment projects for Envicom, and author cultural resource sections of permitting and planning documents, including MNDs and EIRs. Project area includes Ventura, Santa Barbara, Los Angles, Riverside, Kern, Imperial, San Diego, and San Bernardino Counties. I oversee cultural staff and work with planning teams on larger projects. I am also responsible for business development and project management tasks. I write proposals, oversee quality control, develop agency relationships, write technical reports, and manage and develop project budgets.

**Projects:**

- **Paleontological Monitoring of 15353 Camarillo, Sherman Oaks, CA.** Principal and Project Manager for this paleontological monitoring project. (Upcoming).
- **Archaeological and Paleontological Monitoring of the Twin Lakes Water Tank Construction for the Las Virgenes Water District, Porter Ranch, CA.** Principal and Project Manager for this monitoring project. (Upcoming).
- **Cultural Resource Tasks Associated with the Arrowhead Estates Project, Banning, CA.** Principal and Project Manager for this 65-acre residential project, which will construct 170+ houses near the historic Saint Boniface Indian School (now demolished). This project involved the National Register nomination of the Indian School, a HAER-level documentation of a stone and concrete water channel, the curation of all artifacts with the Morongo Tribal Group, the installation of historic signage, and the archaeological and Native American monitoring of the project site grading. (Upcoming).
- **Archaeological Monitoring at the Sakioka Business Park, Oxnard, Ventura County, CA.** Project Manager for this large archaeological monitoring project. (October 2020 – Current).
- **Phase I survey of the proposed Little Rock Mobile Home Park, unincorporated Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (November 2020 – Current).
- **Phase I survey of 410 Tico Road, Ojai, Ventura County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (November 2020 – Current).
- **Native American Monitoring at the Los Angeles International Airport (LAX), City of Los Angeles, Los Angeles County, CA.** Project Manager for this long term Native American monitoring project, which includes a Discovery Plan and a final Monitoring Report. (October 2020 – Current).
- **Oakmont Senior Living Historic and Archaeological Display Production, Agoura Hills, Los Angeles County, CA.** Project Manager for this historical interpretation display project (October 2020 to Current).
- **Arts District Archaeological Monitoring Project, Los Angeles, CA.** Principal and Project Manager for this archaeological monitoring project. (October 2020 to Current).
- **Oakmont Senior Living Historic and Archaeological Display Production, Simi Valley, Ventura County, CA.** Project Manager for this historical interpretation display project (with the Strathearn Historic Park and Museum) (September 2020 to Current).

- **Phase I Survey of 122 acres of the Canyon Ostara residential development project, Malibu, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC and NAHC record search and a site survey. (August 2020 – Current).
- **Cultural Resource Monitoring for the Oasis Windmill Farm, Kern County, CA.** Project manager for the monitoring of impacts in six cultural resources as part of the Oasis Windmill Farm upgrade (August 2020 – Current).
- **Keyes Porsche Archaeological, Paleontological, and Native American Monitoring Project, Woodland Hills, CA.** Principal and Project Manager for this archaeological, paleontological, and Native American monitoring project. (August 2020 – Current).
- **Archaeological, Paleontological, and Native American Monitoring for the JPA/Las Virgenes Water District Solar Farm Expansion, Calabasas, CA.** Principal and Project Manager for this monitoring project. This project encountered elements of a very old prehistoric site at depth, which included lithic material, groundstone artifacts, and an intact multi-episodic hearth feature (April 2020 – Current).
- **Summit View Apartments Project Paleontological Monitoring for this Veterans Housing Project, City of Los Angeles, CA.** Principal and Project Manager for this paleontological monitoring project. (February 2020 – Current).
- **Oakmont Senior Housing Archaeological, Paleontological, and Native American Monitoring Project, Agoura Hills, CA.** Principal and Project Manager for this archaeological, paleontological, and Native American monitoring project. (January 2020 – Current).
- **Conrad N. Hilton Foundation Phase Ib of Proposed Phase II Building Locations, Agoura Hills, California.** This project involved the excavation of 48 shovel test pits within the western periphery of cultural resource CA-LAN-320 on Foundation property. (January 2020 – Current).
- **18800 Gale Avenue Archaeological, Biological, and Paleontological Monitoring Project, Rowland Heights, CA.** Principal and Project Manager for this archaeological, biological, and paleontological monitoring project. (November 2019 – Current).
- **Los Angeles Unified School District (LAUSD) Environmental On-Call for archaeological and paleontological tasks, Los Angeles County, CA.** Principal, Project Manager, and cultural resource task completion as needed. Envicom is one of three selected vendors for one year, with four potential renewable years in the contract. (February 2019 – Current).
- **Los Angeles Community College District Environmental On-Call (including cultural resources), Los Angeles County, CA.** Principal, Project Manager, and cultural resource consultant as needed. (February 2018 – Current).
- **Review of Technical Documents and EIR Cultural Section Writing for "The Agoura Village Expansion" project, Agoura Hills, Los Angeles County, CA.** Professional review of project cultural resource documents and authoring of cultural resource section of MND for this large mixed use project. The primary challenge is that the development is located on a significant prehistoric Native American cultural resource. (January 2018 – Current).
- **Los Angeles Unified Schools Department (LAUSD) Environmental On-Call (including cultural resources), City of Los Angeles, Los Angeles County, CA.** Principal, Project Manager, and cultural resource consultant as needed. Envicom was one of 15 companies to be awarded this large on-call contract. (February 2017 – Current).
- **CA-LAN-320 Phased Evaluation Project, Agoura Hills, Los Angeles County, CA.** Principal and Project Manager for the phased evaluation (Phase II) of CA-LAN-320 in response to potential impacts from the construction of the Conrad N. Hilton Foundation Phase 2 Campus Building. The site is a prehistoric Chumash residential and ceremonial center of over 80-acres in size and that was used by prehistoric Native Americans from 300 B.C. to the late 1700s. Dozens of test units, hundreds of shovel test pits, surface collection, and surface feature mapping have been completed to date planned. (August 2015 – Current).

- **Phase I Survey of a property within the Rancho Ojai subdivision, Ojai, Ventura County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (October 2020 – November 2020).
- **Fillmore Terrace Phase I and Native American Consultation, Fillmore, Venture County, CA (with Samantha Renta).** Principal and Project Manager for this large low-income housing project, which included an SCCIC record search, site visit, and Native American consultation on behalf of the City. (September 2020 – October 2020).
- **Phase I Survey of a property on Giles Road, Lake Sherwood, Ventura County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. Exploration of all rock shelters and cache openings on the property for historic artifacts was part of this project (July 2020 – October 2020).
- **Phase I Survey of 730 South Vermont, City of Los Angeles, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC, NAHC, and NHM record searches and a site visit. (June 2020 – October 2020).
- **Phase I Survey of the Reconstruction of the Brookview Ranch Riding and Event Venue, School of Management Building, County of Los Angeles, CA (with Samantha Whittington).** Principal and Project Manager for this riding venue rebuild and expansion. Project included a SCCIC/NAHC record search and a site visit. One of the challenges has been integrating a prehistoric cultural resource immediately north of the project development, but on the project property, into the assessment recommendations (July 2019 – September 2020).
- **Phase I Survey of 715 Del Oro Drive, Ojai, Ventura County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (June 2020 – August 2020).
- **Phase I Survey of 604 Gridley Road, Ojai, Ventura County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (July 2020 – August 2020).
- **Phase I Survey of the Tehachapi Battery Storage Project, Terra Gen Windfarms, Kern County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included a Bakersfield record search and a site survey. (July 2020 – August 2020).
- **Phase I Survey of the 5041 Lankershim Hotel Property, North Hollywood, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC, NHM, NAHC record searches and a site visit. (May 2020 – July 2020).
- **Phase II Evaluation of CA-LAN-41 within the Boundary of the Agoura Village project, City of Agoura Hills, Los Angeles County, CA.** Principal and Project Manager for the completion of an Evaluation (Phase II) of a complex prehistoric cultural resource within the boundary of the Agoura Village project. The Phase II involved the excavation of ten test units, dozens of shovel test pits, as well as more detailed mapping of the site. (January 2019 – July 2020).
- **Phase I Survey of 6544 Wandermere Road, Malibu, Los Angeles County, CA (with Samantha R3nta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (June 2020 – July 2020).
- **Phase I Survey of 5841 Busch Drive, Malibu, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (May 2020 – July 2020).
- **Archaeological and Paleontological Monitoring for the Agoura Landmark Development Project, Agoura Hills, CA.** Principal and Project Manager for this monitoring project. A negative findings report was also completed and submitted to the City (January 2019 – July 2020).

- **Phase I Survey 505 Centre Street, City of Los Angeles, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC, NAHC, and NHM record searches and a site visit. This complex project had multiple built environment concerns, including the adjacent San Pedro Commercial Historic District (April 2020 – June 2020).
- **Paleontological Phase I Survey of an Agricultural Development Parcel in Balcom Canyon, City of Somis, Ventura County, CA.** Author for this project, which included a detailed geological and paleontological statement for the proposed project. (June 2020).
- **Cultural Resource Discovery Plan for the Oasis and Point Wind Windmill Farm, Kern County, CA.** Author of the discovery plan for upgrades to two large windmill farms for Terra Gen. (March – April 2020).
- **Phase II Evaluation of Six Native American Archaeological Sites for the Terra Gen Oasis Windmill Farm, Kern County, CA.** Principal and Project Manager for this archaeological evaluation project, which utilized shovel test pits and test units to evaluate six prehistoric Native American cultural resources that would be impacted by future windfarm development. (March 2020 – April 2020).
- **Phase I Survey of The Emerald Residential Project, Lancaster, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this approximately 5-acre housing project, which included an SCCIC/NAHC/NHM record searches and a site visit. (February 2020 – April 2020).
- **Phase I Survey of The West Palmdale Residential Complex Project, Palmdale, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this approximately 35-acre housing project, which included an SCCIC/NAHC/NHM record searches and a site visit. (February 2020 – April 2020).
- **Conrad N. Hilton Foundation Geotech Boring Archaeological and Paleontological Monitoring, Agoura Hills, California.** This project involved the monitoring of geotech trench and drilling sites within Foundation and Las Virgenes Water District properties within the City of Agoura Hills. (January 2020 – April 2020).
- **Phase I Survey of 4510 Via Vienta, Malibu, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (January 2020 – April 2020).
- **Phase I Survey of the Proposed California Lutheran University, School of Management Building, Thousand Oaks, CA (with Samantha Renta).** Principal and Project Manager for this university project. Project included a SCCIC/NAHC record search and a site visit. (December 2019 – April 2020).
- **Phase I Survey of the Twin Lakes Water Tank Project, Porter Ranch, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for the Los Virgenes Municipal Water District. (October 2019 – April 2020).
- **Phase I Survey of the Castaic Apartments Project, Town of Castaic, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this large 105-acre mixed use development project, which included an SCCIC/NAHC record search, an NHM record search, and a site visit. The cultural survey discovered two complex older historic sites, which required extensive recordation and evaluation (July 2019 – April 2020).

- **Sierra West Assisted Living Project, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this group residential project. Project included NHM/SCCIC/NAHC record searches, and a site visit. A project challenge was addressing historic early 20th Century structures, including an early stagecoach station, which once were located on the property, as well as the proximity of the parcel to a historic (1880s) cemetery. (October 2019 – April 2020).
- **Phase I Survey of 1175 Camille Drive, Ojai, Ventura County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC/NAHC record search and a site visit. (January 2020 – February 2020).
- **Vineland and Cleon Self Storage Project Phase I Cultural Survey, Burbank, CA (with Samantha Renta).** Principal and Project Manager for this commercial project. Project included NHM/SCCIC/NAHC record searches, but no site visit due to extensive urbanization. (December 2019 – January 2020).
- **Phase I Survey of 5617 Busch Drive, Malibu, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (December 2019 – January 2020).
- **Cultural Resource Monitoring of the 21110 Oxnard Hotel project, Woodland Hills, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this monitoring project. (August 2019 – January 2020).
- **Phase I Survey of the Riverwalk II Mixed-Use Project, Santa Clarita, CA.** Principal and Project Manager for this commercial and Residential Project. Project included a SCCIC/NAHC record search and a site visit. (December 2019 – December 2019).
- **Phase I Survey of 5814 Philip Road, Malibu, Los Angeles County, CA (with Samantha Renta).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (October 2019 – December 2019).
- **Phase I Survey of Improvements to the Coronado Golf Course, San Diego, San Diego County, CA (with Samantha Whittington).** Principal and Project Manager for this project, which included an SCCIC/NAHC record search only. (October 2019 – November 2019).
- **Phase I Survey of 6208 Tapia Drive, Malibu, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (October 2019 – November 2019).
- **Phase I Survey of 6711 Wandermere Road, Malibu, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (September 2019 – October 2019).
- **Phase I Survey of 5820 Foxview Drive, Malibu, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for residential project, which included an SCCIC/NAHC record search, an NHM record search, and a site visit. (September 2019 – October 2019).
- **Phase I Survey of the new Keyes Porsche Auto Dealership, Woodland Hills, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for this project, which included an SCCIC/NAHC/NHM record search, a site visit, and the production of a separate Ethnographic Assessment Report for the project. Envicom also supported the Lead Agency in AB-52 consultation with the Tataviam and Tongva Tribal Groups. (August 2019 – October 2019).
- **Cultural Resource Monitoring of the 21121 Van Owen development project, Canoga Park, Los Angeles County, CA.** Principal and Project Manager for this monitoring project. (September 2019).

- **Phase I Survey of the Avenue 34 Mixed-Use** Development **Project, City of Los Angeles, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for this project, which included an SCCIC/NAHC record search and a site visit. (August 2019 – September 2019).
- **Phase I Survey of the Faith Lutheran Senior Living Project, City of Inglewood, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for this project, which included an SCCIC/NAHC record search and a site visit. (August 2019 – September 2019).
- **Phase II Evaluation of Cultural Resource CA-LAN-513 within the Boundary of 6282 Sea Star Estates Residential Development within the City of Malibu, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for this Phase II evaluation, which involved surface examination only due to plowed field conditions. No evidence of a cultural resource was found. (September 2019).
- **Phase I Survey of an Agricultural Development Parcel in Balcom Canyon, City of Somis, Ventura County, CA (with Samantha Whittington).** Principal and Project Manager for this project, which included an SCCIC/NAHC record search, a site visit, and the recordation of a prehistoric site at the edge of the project boundary. (July 2019 – August 2019).
- **Phase I Survey of 31215 Bailard Road, City of Malibu, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (July 2019 – August 2019).
- **Phase II Evaluation of the Proposed Location of the Printz Colony House within the Strathearn Historic Park, City of Simi Hills, Ventura County, CA (with Samantha Whittington).** Principal and Project Manager for this Phase II evaluation of part of the 1880s Strathearn Farmstead. Evaluation tasks included the excavation of shovel test pits and a single test unit, construction monitoring, and a combined report for the Rancho Simi Recreation and Parks District (June 2019 – July 2019).
- **Phase I Survey of the Parks LA project, City of Los Angeles, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for this project, which included an SCCIC/NAHC/NHM record search, a site visit, and a Natural History Museum paleontological assessment. (June 2019 – July 2019).
- **Phase I Survey of the Rancho Malibu residential development project, City of Malibu, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for this project, which included an SCCIC/NAHC/NHM record search, a site visit, and a Natural History Museum paleontological assessment. (June 2019 – July 2019).
- **Phase I Survey of 380 South Rosemead, City of Los Angeles, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for this development project, which included an SCCIC/NAHC/NHM record search, a site visit, and a Natural History Museum paleontological assessment. (May 2019 – June 2019).
- **Phase II Evaluation of CA-LAN-129 and CA-LAN-129a, two prehistoric sites, and CA-LAN-4363H, an early historic site located in Calabasas, CA.** Principal and Project Manager for the evaluation of these three sites as part of permitting with the Corps of Engineers. The evaluation was written to NRHP/SHPO standards. (May 2019 – June 2019).
- **Phase I Survey of 1160 Sulphur Mountain Road, City of Ojai, Ventura County, CA.** Principal and Project Manager for this residential development project, which included a SCCIC/NAHC record search and a site visit (May 2019 – May 2019).
- **Phase I Survey of the Cal Grow Farms Project, City of Perris, Riverside County, CA.** Principal and Project Manager for this agricultural development project, which included a SCCIC/NAHC/NHM record search and a site visit. (March 2019 – May 2019).

- **Phase I Survey of the Riverwalk Mixed-Use Project, Santa Clarita, CA.** Principal and Project Manager for this commercial and Residential Project. Project included a SCCIC/NAHC record search and a site visit. (March 2019 – May 2019).
- **Phase I Survey of the West Village Project, Calabasas, CA.** Principal and Project Manager for this Army Corps of Engineers (ACOE) permitting project. Project included a SCCIC/NAHC/NHM record search and a site visit, as well as SHPO review of the final report. (March 2019 – May 2019).
- **Phase I Survey of the Belvedere Middle School Improvements Project, City of Los Angeles, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search and NAHC record search request for LAUSD. (November 2018 – April 2019).
- **Phase I Survey "The Angel" Project, Los Angeles County, CA.** Principal and Project Manager for this low income housing project in the San Fernando Valley. Project included a SCCIC/NAHC record search and a site visit. (January 2019 – March 2019).
- **Fourth and Hewitt, City of Los Angeles, Los Angeles County, CA.** Principal and Project Manager for a cultural resource record search for the development of a new office building within a commercial urban environment. Project also included a paleontological assessment of the property due to an extensively deep planned parking garage and Native American concerns. Also completed with an Ethnographic Report to meet AB-52 criteria. Another key issue was determining whether a historic built environment assessment was needed. (February 2017 – March 2019).
- **Phase I Survey of the Deer Lake Water Tank Project, Porter Ranch, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for the Los Virgenes Municipal Water District. (November 2018 – March 2019).
- **Phase I Survey of the Sherwood Development Corporation, Tract 4409, Ventura County, CA.** Principal and Project Manager for this Army Corps of Engineers (ACOE) permitting project. Project included a SCCIC/NAHC record search and a site visit, as well as SHPO review. (January 2019 – February 2019).
- **City of Thousand Oaks Environmental On-Call (Including Cultural Resources), Los Angeles County, CA.** Envicom was selected as one of a limited number of on-call environmental firms for the City. (June 2015 – December 2018)
- **Phase II Evaluation of Cultural Resource CA-LAN-513 within the Boundary of 6361 Sea Star Estates Residential Development within the City of Malibu, Los Angeles County, CA.** Principal and Project Manager for this Phase II evaluation, which involved limited shovel test pits and surface examination. No evidence of a cultural resource was found. (November 2018 – December 2018)
- **Phase I Survey for the Massilia Spa Project, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. Project also includes an inventory and initial assessment of over a dozen 1930 through 1990 structures on the property (June 2018 – December 2018)
- **Phase I Survey of the Conejo Creek Park, City of Thousand Oaks, Ventura County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (August 2018 – November 2018)
- **Phase I Survey of the Butler Ranch, in Ventura County near west Simi Valley, California.** Principal and Project Manager for the completion of a Phase I record search, NAHC record search request, and a site survey of this 332-acre low density residential development project. (May 2018 – October 2018)
- **Valencia Travel Village, Valencia, Los Angeles County, CA.** Principal and Project Manager for the completion of a Phase I for trailer park and recreation center. (August 2018 – October 2018)

- **Phase I Survey of the JPA Solar Farm, Calabasas, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for the Los Virgenes Municipal Water District. This 20-acre solar project also addressed a large prehistoric Native American site located next to and partially on the property. Project included Native American consultation with the Lead Agency and the Tatatviam and the recordation of two prehistoric petroglyphs (August 2018 – October 2018)
- **Simi BMX Course Phase I Survey, Simi Valley, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (July 2018 – August 2018)
- **Phase I Paleontological Survey of the 3467 Camino de la Cumbre Property in Sherman Oaks, Los Angeles County, CA.** Principal and Project Manager for the completion of a Natural History Museum record search and paleo report. (August 2018)
- **Phase I Survey of the proposed 113-133 West Plymouth Street multiple unit residential development, Inglewood, Los Angeles County, CA (with Samantha Whittington, Debbie Balam, and Charlie Fazzone).** Principal and Project Manager for the completion of a SCCIC/NAHC record search, paleontological record search, NAHC record search request, and a site survey. Additional tasks included writing for the cultural section of the MND document (April 2018 – August 2018)
- **Phase I Survey for the 17-acre Olivas Park Extension commercial development project in Ventura, Ventura County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey, followed by limited monitoring. (January 2018 – June 2018)
- **Phase I(b) Survey of the proposed Forrest Club 50-acre private club development, Los Angeles County, CA (with Samantha Whittington and Charlie Fazzone).** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. In addition, 24 shovel test pits were excavated across the locations of two 1920s historic cabins. No further work was required. (April 2018 – June 2018)
- **Phase I Survey for the Ascension Lutheran Church Master Plan and MND, Thousand Oaks, California, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (May 2018 – June 2018)
- **Cultural, Paleo, and Native American Monitoring for the Agoura Hills Marriott Development Project, Agoura Hills, CA.** Principal and Project Manager for this monitoring project. During monitoring, a prehistoric Chumash cultural resource was discovered (number not yet assigned), which led to artifact collection, analysis, and a final report of findings that was submitted to the City (January 2018 – June 2018)
- **Phase I Survey for the Mulholland Senior Living Project, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (May 2018 – May 2018)
- **Phase I Survey of the proposed Tapo at Alamo EIR for a mixed-use development project, Simi Valley, Ventura County, CA (with Samantha Whittington and Debbie Balam).** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (March 2018 – May 2018)
- **Phase I Survey of the Upper Bailey Road tract, Sylmar, Los Angeles County, CA (with Samantha Whittington and Debbie Balam).** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (December 2017 – April 2018)

- **Phase I Survey of the Lower Bailey Road tract, Sylmar, Los Angeles County, CA (with Samantha Whittington and Debbie Balam).** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (December 2017 – April 2018)
- **Historic Structure Evaluation of Blythe Elementary School for LAUSD.** Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. (February 2018 – April 2018)
- **Historic Structure Evaluation of Robert Hill Lane Elementary School for LAUSD.** Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. (February 2018 – April 2018)
- **Historic Structure Evaluation of James Madison Middle School for LAUSD.** Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. School was found eligible for the CRHR. (February 2018 – April 2018)
- **Historic Structure Evaluation of 54th Street Elementary School for LAUSD.** Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. School was found eligible for the CRHR. (February 2018 – April 2018)
- **Historic Structure Evaluation of Chapman Elementary School for LAUSD.** Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. (February 2018 – April 2018)
- **Historic Structure Evaluation of Dena Street Elementary School for LAUSD.** Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. (February 2018 – April 2018)
- **Historic Structure Evaluation of Patrick Henry Middle School for LAUSD.** Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. School was found eligible for the CRHR. (February 2018 – April 2018)
- **Historic Structure Evaluation of Richland Avenue Elementary School for LAUSD.** Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. (February 2018 – April 2018)
- **Marinette Road Residential Development, Pacific Palisades, Los Angeles County, CA.** Principal and project manager for this development project, which included a SCCIC/NAHC record search, site survey, Tribal Group scoping letters, and agency consultation. The major challenge was that the project property was within the Will Rogers State Monument and National Register site boundary. An update for this project was conducted in 2018 to include AB-52 compliance. (February 2015 – May 2015; January 2018 – April 2018)
- **Phase I Survey for 6956 Dume Drive, Malibu, California, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for the completion of an SCCIC record search, and a site survey. (February 2018 – March 2018)
- **Phase I Survey of roughly 50-acres for Improvements on the Saddlerock Ranch/Malibu Wines Property in the Santa Monica Mountains, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC scoping, and a site survey. This project involves upgrades to the winery existing structures and public buildings, as well as road and parking improvements. Part of this project is located near a National Register Chumash rock art site as well as other prehistoric resources (November 2016 – March 2018)
- **Phase I Survey for 28730 Grayfox, Malibu, California, Los Angeles County, CA (with Samantha Whittington).** Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. (January 2018 – February 2018)

- **Phase I Survey for 11681 Foothill Boulevard, a multiple-unit residential project in Sylmar, California, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. This project also included a Native American Tribal Cultural Resource Assessment. (November 2017 – February 2018)
- **Phase I Survey for a single family property development along Yerba Buena Road, Ventura County, CA.** Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. (December 2017 – January 2018)
- **Phase I Survey for 34134 Mulholland Highway, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (December 2017 – January 2018)
- **Faunal, Osteological, Archaeological, and Fossil Consultation for Citadel Environmental and Turner-Hunt for the Hollywood Park Development Project (new Rams NFL Stadium).** Osteological and paleontological consultant for Kiewit, Turner, and Citadel for the construction of the new Rams NFL stadium in Ingelwood. Project included discovery and recordation of modern and fossil mammal bones. We were the official on-call cultural/paleo resources team for the Rams Stadium project, being called in to deal with modern faunal and ancient fossil remains found during excavation. We worked closely with the construction team to get an expert on site within 24-hours of the discovery or quicker, with the goal of getting the discovery assessed and the construction team back to work as soon as possible. (December 2016 – January 2018)
- **Phase I Survey for 24600 Thousand Peaks Road, Calabasas, California, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (November 2017 – January 2018)
- **Phase I Survey for 28929 Grayfox, Malibu, California, Los Angeles County, CA.** Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. (November 2017 – January 2018)
- **Manzanita School Phase Ia Survey for a 20.27-acre private school development in Topanga Canyon, California, Los Angeles County, CA.** Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. This project also assessed built environment resources, which included early 1900s buildings, early 1900s water control features, culverts, and bridges, and 1950s landscaping elements (May 2017 – January 2018)
- **Phase I Survey for the 181 to 187 Monterrey Road Condominium Project, a small residential development near South Pasadena, California, Los Angeles County, CA.** P Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. (July 2017 – January 2018)
- **Phase I Survey for the Agoura Village project, a 7.37-acre Commercial Subdivision in the City of Agoura Hills, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC scoping, and a Phase Ia site survey. The Phase Ia survey was followed by a Phase Ib subsurface survey and an updated site form for a previously known prehistoric cultural resource that includes the entire project area. (October 2016 – December 2017)
- **Phase I survey for 22866 Beckledge Terrace, Malibu, California.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (September 2017 – November 2017)
- **Lynn Road Residential Development Project, Construction Monitoring, Newbury Park, CA.** Principal and Project Manager for the surface collection and construction monitoring for this 10-acre residential construction project. (October 2017 – November 2017)

- **Phase II Evaluation of two cultural resources located on the Oakmont project property, City of Agoura Hills, Los Angeles County, CA.** Principal and Project Manager for the evaluation of a prehistoric cultural resource and a 1920s-1980s historic homestead cultural resource. Evaluation tasks included shovel test pits, and a test unit for the prehistoric cultural resource, and detailed mapping and documents research for the historic cultural resource. A combined report for both Oakmont projects was produced for the City. (August 2017 – October 2017)
- **City of Pomona Environmental On-Call (Including Cultural Resources), Los Angeles County, CA.** Envicom successful won inclusion as one of six on-call environmental firms for the City. (October 2014 – October 2017)
- **Phase I Survey for the Oakmont commercial project, a 5.75-acre development in the City of Agoura Hills, Los Angeles County, CA.** Principal and Project Manager for the completion of NAHC record search, and a Phase Ia site survey. The Phase Ia survey identified two cultural resources; a 1920s historic homestead foundation, and a large prehistoric archaeological site. (August 2017 – October 2017)
- **Phase I Assessment of the West Hills Crest 37-acre Residential Subdivision in West Hills, City of Los Angeles.** Principal and Project Manager for the completion of a SCCIC/NAHC record search and project area site survey. A key issue for this project was the record search being positive for a prehistoric cultural resource within the development area. This resource, CA-LAN-1223, was further investigated with 22 shovel test pits, and evaluated as not being a significant cultural resource. (February 2017 – October 2017)
- **San Bernardino County Cultural, Historic Architecture, and Paleontology On-Call, San Bernardino, CA.** Envicom successful won inclusion in the limited on-call pool. (October 2014 – October 2017)
- **Phase I Survey for 15498 LaPeyre Court, a residential development in Moorpark, Ventura County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. Project also included coordination with numerous biology tasks. (August 2017 – September 2017)
- **Canyon View Estates Paleontological Survey, Santa Clarita, Los Angeles County, CA.** Principal and Project Manager for this paleontological record search, site survey, and report. (August – September 2017)
- **North Canyon Ranch 170-acre Residential Subdivision in Simi Valley, Ventura County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search and project area site survey. A key issue for this project was a previously disturbed cultural resource within the project area, the destruction of which needed to be addressed in the final report. (May 2017 – August 2017)
- **Phase I Survey for the 12300 Valley Boulevard Hotel, a commercial development in El Monte, Los Angeles, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for this small residential development. (June 2017 – August 2017)
- **Phase Ia Survey for the Holiday Inn Express Hotel, a commercial development in El Monte, Los Angeles, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for this small residential development. (July 2017 – August 2017)
- **Arcadia Town Homes MND Phase I Cultural Assessment for a multi-unit residential development in Arcadia, Los Angeles, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for this multi-unit residential development. (May 2017 – August 2017)

- **Phase I Survey for 3800 Figueroa, an apartment complex development in Los Angeles, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for apartment complex development. (June 2017 – August 2017)
- **Phase I Survey for the Copper Canyon Project, a 5-acre residential development near Santa Clarita, California, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. Also part of the project was the resurvey of two previously recorded cultural resources within the project boundary. (May 2017 – July 2017)
- **Phase Ia Survey for the Oneonta Hillside Drive, a residential development in South Pasadena, Los Angeles County, CA.** Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. (May 2017 – July 2017)
- **Construction Monitoring for Parcel 2058-003-010, Lobo Canyon, Los Angeles County.** Principal and Project Manager for the surface collection and construction monitoring for this single family residential construction project. (July 2017)**.**
- **Phase I Survey for the 6625 Bradley Road, a residential development in Somis, Ventura County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for this small residential development. (June 2017 – July 2017)
- **11172 Santa Paula Road Phase Ia Survey for a 5.5-acre Agricultural property in Ojai, California, Ventura County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (May 2017 – June 2017)
- **Pepperdine University Campus Life Project: Updated Cultural Resources Record Search.** Principal and Project Manager for an updated record search and letter report for the Pepperdine Campus Life housing, facilities, and trail development project. This update was part of an amended campus-wide EIR (December 2017 – June 2017)
- **Pepperdine University Campus Life Project: Phase I survey of new Baseball Field development.** Principal and Project Manager for the addition of the campus baseball field as part of the larger Pepperdine Campus Life housing, facilities, and trail development project. (February 2017 – June 2017)
- **6658 Reseda Boulevard, City of Reseda, Los Angeles County, CA.** Principal and Project Manager for a Phase 1 record search for this urban mixed use project. (March 2017 – May 2017)
- **Paradise Valley Development Project Environmental Impact Report and Impact Statement, Riverside County, CA.** Author of the cultural section for this EIR for a housing and mixed use development of over 2200-acres east of Indio, California. Also reviewed original technical documents, and incorporated legal and agency comments. Mitigation measures included the management and monitoring of dozens of cultural resources, sensitive soils, and paleontological resources. (October 2014 – March 2017)
- **Phase I Cultural Resources Survey for Parcel 2058-003-010, Lobo Canyon, Los Angeles County, CA.** Principal and Project Manager for completion of a Phase I and Army Corps of Engineers permit for the project (ACOE, Los Angeles District). Extensive communications and consultation with the ACOE and SHPO. (July 2016 – March 2017)
- **Phase I Survey for a 1.33-acre Mixed-Use development in the City of Northridge at the corner of Nordoff and Darby Streets, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC scoping, and a site survey. This project included a built-environment assessment of existing historic structures (October 2016 – February 2017)

- **Phase I Survey for a 0.5-acre Residential Subdivision in the City of Los Angeles at the end of Crisler Way, Los Angeles County, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (October 2016 – February 2017)
- **Deer Lake Residential Development Cultural Monitoring, Porter Ranch, Los Angeles, CA.** Principal and Project Manager for the cultural monitoring of eight cultural resources within the project development boundary. This project includes the writing of a final Monitoring Report. (May 2016 – February 2017)
- **Phase I Survey for a 0.5-acre Mixed Use Development Project on Camarillo Avenue in North Hollywood, Los Angeles County, CA.** Principal and Cultural Project Manager for the completion of a SCCIC/NAHC record search, NAHC scoping, and a site survey. This project also included a historic built environment assessment (November 2016 – January 2017)
- **Phase I Survey for a 14-acre Residential Subdivision in Woodland Hills, CA.** Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC scoping, and a site survey. This project involved consultation with the City of Los Angeles on AB-52 (July 2016 – January 2017)
- **Lynn Road Residential Development Project, Newbury Park, CA.** Principal and Project Manager for the Phase Ia and Phase Ib survey of this 10-acre parcel. A large prehistoric Middle-Period seasonal settlement was discovered, which required subsurface testing and extensive mapping of surface hearths, yucca roasters, and dwelling features. Project included public testimony before the Thousand Oaks Planning Commission. (September 2015 – December 2016)
- **Pepperdine University Campus Life Project: Debris Basin Excavation Cultural and Paleontological Resource Monitoring, Los Angeles, CA.** Principal and Project Manager for cultural resource monitoring of Phase I of the Pepperdine Campus Life housing, facilities, and trail development project. (August – October 2016)
- **Trail Construction Monitoring, Conrad N. Hilton Foundation.** Principal and Project Manager for the development of a pedestrian foot trail loop between the Foundation and the nearby "Ridge" professional building, including the excavation of dozens of shovel test pits and a major surface collection of prehistoric artifacts, including trail construction monitoring. (August – September 2016)
- **Conrad N. Hilton Foundation Trail Project Cultural Assessment, Agoura Hills, Los Angeles County, CA.** Project Manager for the Phase 1b survey of a new pedestrian access trail linking off-site office space with the Foundation campus buildings. Project included the excavation of over 30 shovel test pits and the recording of numerous prehistoric features. (May – August 2016)
- **32640 PCH Phase I Cultural Resource Survey, Santa Monica, CA.** Principal and Project Manager for the Phase I cultural resource assessment of a ravine rehabilitation project between the Pacific Coast Highway and the Pacific Ocean. Included a SCCIC/NAHC record search, site survey, and technical report. (May 2015 – June 2016)
- **CA-LAN-320 Project Compliance Plans, and Native American and Lead Agency Consultation, Agoura Hills, Los Angeles County, CA.** Tasks included the authoring of a cultural resource Treatment and Data Recovery Plan, a cultural resource Management Plan, and a Curation Plan for all artifacts, as well as the organization of meetings with the Chumash Tribal Groups and the Lead Agency. (April 2015 – June 2016)
- **Canyon Park Homes, Sylmar, Los Angeles County, CA.** Native American Tribal Group consultation and pre-construction monitoring for this 80-acre residential property development, as well as EIR section writing. (February 2015 – March 2016)

- **Oakwood Schools Built Environment and Archaeological Assessment, North Hollywood, Los Angeles County, CA.** Principal and Project Manager for the Phase I cultural resource assessment of the project property prior to the construction of a new middle and high school campus within the North Hollywood area. Challenging tasks included Native American ghost writing for the lead agency (City of Los Angeles) and addressing a modern human cremation garden in the report (November 2015 – February 2016)
- **Floral Canyon Residential Development Cultural Resource Survey, North Hollywood, CA.** Principal and Project Manager for this Phase Ia cultural resource survey of an 8-acrea property. The cultural resource parts of the CEQA checklist were also completed. (September – December 2015).
- **Hilton Property Phase 3 Construction Site Phase Ib Cultural Resources Survey, Agoura Hills, Los Angeles County, CA.** Principal and Project manager for this extensive preliminary survey project, including excavation of over 200 shovel test pits and 4 test units to define the boundaries of a prehistoric ceremonial site of over 80-acres in size, used by Chumash Native Americans from 400 A.D. to the late 1700s. Recordation of over 190-features and 11,500 artifacts. Second phase will include data recovery tasks and an amended Environmental Impact Report. (February 2014 – March 2015)
- **Blessed Theresa Church Construction, City of Winchester, Riverside County, CA.** Cultural consultation including cultural/paleo monitoring issues. (April 2014 – July 2014)
- **Village at Los Carneros, City of Goleta, Santa Barbara County, CA.** Reviewed all previous technical studies and wrote part of the cultural sections of the Environmental Impact Report for this residential house development project. (March 2014 – April 2014)
- **3121 Old Topanga Canyon Road Phase I Survey and Literature Search, City of Calabasas, Los Angeles County, CA.** Principal and Project manager for this residential development project, including NAHC letters, literature review, site survey, paleontological survey and literature search, final technical report, and the writing of the cultural resources section of the Environmental Impact Report. (March 2014 – April 2014)

**Cultural Division Director, Chambers Group, Inc., Santa Ana, CA**
**October, 2011 – October 2013**

As Cultural Director, I oversaw all existing cultural, paleontological, ethnographic, and built environment projects for Chambers Group. Projects were staged out of seven regional offices located within California and Nevada. I oversaw a permanent staff of 20 individuals and a temporary staff of up to 40 people. I also was responsible for business development and coordination of projects with multi-disciplinary teams, including Biology, Air Quality, SWPPP, and Planning professionals. I reviewed and authored cultural sections of EA, EIR, and EIS documents. I also wrote proposals, oversaw quality control, provided cultural compliance sections of technical reports, developed agency relationships, wrote technical reports, managed and developed budgets, and oversaw all cultural staff. I performed QA/QC on all documents and ensured that management and mitigation measures were clearly defined and legally-defendable. Yearly Division budget was up to 3-million dollars annually.

**Energy Projects:**

- **Beacon Solar, Hecate Energy and LADWP, Kern County, CA.** Business Developer for the archaeology and biological monitoring, pre-construction surveys, and desert tortoise fence monitoring for this large, 2000-acre solar project for the Los Angeles Department of Water and Power. (July – October 2013).
- **Q-Cells Solar Survey, Palm Springs, Riverside County, CA.** Principal and Project Manager for a cultural survey and record search of 36-acres north of Palm Springs for solar development. (October 2013 – October 2013)
- **Pacific Gas and Electric NERC Support Monitoring, sub to URS, Northern and Central California.** Principal and Project Manager for this 4-year project in support of the national NERC power pole reliability project for PG&E. Involves cultural, biological, and paleontological monitoring and field surveys. (October 2013 – October 2013)
- **Gold Bar Transmission Line Survey, McEwen Mining, Eureka County, NV.** Principal and Project Manager for this 2,577-acre cultural survey for the development of a 33-mile transmission line to service the Gold Bar Mine in Nevada. Bureau of Land Management was the principal Federal agency. (April 2013 – October 2013).
- **East Kern Wind Resource Area (EKWRA) Power Pole Replacement Project, Environmental Intelligence / Southern California Edison, Kern County, CA.** Principal and Project Manager. This two-year project included cultural resource surveys, the evaluation of numerous cultural sites, and cultural and paleontological monitoring for the construction of over 130-miles of new power poles and fiber optics lines to service Tehachapi Mountain wind farms. (January 2013 – October 2013)
- **Pure Source Power, Victorville, San Bernardino, CA.** Principal and Project Manager for a cultural survey and record search of 140-acres north of Palm Springs for solar development. (September 2013 – October 2013)
- **Dry Ranch Solar Project, Silverado Power, Los Angeles County, CA.** Principal. Dr. Bischoff managed this 64-acre solar project near Lancaster, which included a SCCIC/NAHC record search, field survey, and cultural report to meet CEQA compliance. This project included coordination with Southern California Edison for a gen-tie line and telecom attachments. (March - April 2013)
- **Plainview Solar Project, Silverado Power, Los Angeles County, CA.** Principal. Dr. Bischoff managed this 114-acre solar project near Lancaster, which included a SCCIC/NAHC record search, field survey, and cultural report to meet CEQA compliance. (April - May 2013)
- **Silverleaf Solar Project, Cultural and Paleontological Survey, Agile Energy, Imperial County, CA.** Principal and Project Manager. Dr. Bischoff provided general review and quality control for a large solar project south of San Diego. This project involved an over 2,000-acre survey of proposed solar fields and 5-miles of electrical transmission gen-tie lines. The bureau of Land Management was the principal Federal agency. (November 2011 - July 2012)
- **Desert Harvest Solar Project, Cultural Resources Survey, eneXco Energy, Riverside County, CA.** Project Manager. Dr. Bischoff was the project manager for the built environment survey of 1,600-acre solar field and 12-miles of electrical transmission gen-tie lines. (November 2011 - June 2012)
- **Silverleaf Solar Project, Built Environment Survey, Agile Energy, Imperial County, CA.** Project Manager. Project Manager. Dr. Bischoff was the project manager for the built environment survey of 2,000-acre solar field and 5-miles of electrical transmission gen-tie lines. This included the production of a separate technical report for the Bureau of Land Management that included a historic structure inventory, assessment of significance, and an indirect effects analysis. (November 2011 - July 2012)

- **IVSC2 Solar Project, County of Imperial, Imperial County, CA.** Principal and Project Manager. Dr. Bischoff provided oversight of the 140-acre solar project east of the Salton Sea. This project was notable for the quick response time required to field a survey crew and complete a draft report for the County (Sept-Oct 2012)
- **Desert Harvest Solar Project, Cultural and Paleontological Resource Survey, eneXco Energy, Riverside County, CA.** Principal and Project Manager. Dr. Bischoff provided general review and quality control for a large solar project northeast of Blythe, CA. This project involved an over 1,600-acre survey of proposed solar fields and 12-miles of electrical transmission gen-tie lines. Bureau of Land Management was the principal Federal agency. (November 2011 - July 2012)
- **Desert Harvest Solar Project, Build Environment Survey, eneXco Energy, Riverside County, CA.** Project Manager. Dr. Bischoff was the project manager for the built environment survey of 1,600-acre solar field and 12-miles of electrical transmission gen-tie lines. This included the production of a separate technical report for the Bureau of Land Management that included a historic structure inventory, assessment of significance, and an indirect effects analysis. (November 2011 - June 2012)

**Telecommunication Projects:**

- **AT&T Fiber-optics Renewal Project, Evaluations, Mitigations, and Monitoring, AT&T, San Bernardino County, CA.** Cultural Principal and Project Manager. Dr. Bischoff will provide project management, technical writing, and quality control for the cultural and paleontological evaluations, data recoveries, and monitoring efforts for the AT&T fiber renewal project. This project involved the survey of over 90 miles of proposed new fiber-optic line between Barstow and Las Vegas, NV, and the management of over 100-cultural sites. Bureau of Land Management and Mojave National Preserve were the principal Federal agencies. (July 2013 – October)
- **Fiber Node Evaluations, Freedom Communications, Orange County, CA.** Cultural Principal. Dr. Bischoff provided general project management and quality control for the cultural background record searches and surveys for dozens of telecommunication sites throughout the City of Irvine as part of the Freedom Communications site development project. Dozens more sites are expected to be tested in the coming year. (April 2012 – October 2013)
- **San Diego Churches and Public Building Historic Structure Evaluations, DePratti Inc., City of San Diego, CA.** Principal Investigator. Dr. Bischoff acted as Principal and QA/QC manager for this project, which involved the evaluation of dozens of historic structures as part of the DePratti Communication telecommunication attachment project in the City of San Diego. (November 2011 – October 2013)
- **The Plunge Evaluation, DePratti Inc., City of San Diego, San Diego County, CA.** Principal for this historic architecture project involving the structural evaluation and National Register documentation for The Plunge historic salt-water bath house in San Diego. (September 2013 – September 2013)
- **AT&T Fiber-optics Renewal Project, Surveys, Literature Searches, and Technical Studies, AT&T, San Bernardino County, CA.** Cultural Principal and Project Manager. Dr. Bischoff provided general project management and quality control for the cultural, paleontological, and ethnographic surveys, literature searches, and technical studies. This project involved the survey of over 90 miles of proposed new fiber-optic line between Barstow and Las Vegas, NV, and the management of over 100-cultural sites. Bureau of Land Management and Mojave National Preserve were the principal Federal agencies. (April 2012 – July 2013)

- **Digital West Fiber Line Feasibility Study, San Luis Obispo to Los Angeles, Counties of San Luis Obispo, Santa Barbara, Ventura, and Los Angeles, CA.** Project Manager for this large feasibility study for placing a new fiber line down the US 101 freeway corridor. Biological, cultural, paleontological, and permitting constraints were all examined. (April 2012 – July 2013)
- **Digital 395 Broadband Stimulus Project, Praxis and California Broadband Corporation, California and Nevada.** Cultural Director. Dr. Bischoff acted as the California report manager of the cultural division, directed fieldwork, and authored management documents and reports. This project involved the new installation of over 650 miles of fiber-optic line across California and Nevada. The programmatic agreement of this complex project included 10 federal, state, and tribal agencies, with another seven acting as interested parties, and the management, evaluation, and monitoring of over 170 cultural sites. NTIAA was the Principal Federal Agency, but also involved twelve other California and Nevada State and Federal agencies and Tribal Groups (November 2011 – April 2012)

**Defense Projects:**

- **Fort Irwin Cell Tower Geotech Boring Monitoring, Northrop-Grumman and Fort Irwin Army Post, San Bernardino County, CA.** Principal. This project involves the cultural and paleo monitoring of sensitive areas as part of the construction of over 24 new cell tower locations. (October 2013 – October 2013)
- **Edwards Airforce Base Telecommunication Cultural Monitoring, Team Fischel Company, Edwards AFB, Kern County, CA.** Project Manager and Principal for the cultural monitoring of 40-miles of telecommunication trenching on Edwards AFB, including pre-construction meetings and a final monitoring report. (May 2013 – Sept. 2013)
- **Fort Irwin Cell Tower Surveys and Monitoring, Northrop-Grumman and Fort Irwin Army Post, San Bernardino County, CA.** Principal. This project involves the cultural and paleo survey of over 24 new cell tower locations and associated access roads on Fort Irwin, as well as construction phase monitoring. (April 2013 – October 2013)
- **Marine Corps Base, Camp Pendleton, Cultural Resources Consultation, Marine Corps Base, Pendleton, San Diego County, CA.** On-Call Senior Cultural Resources Consultant. Dr. Bischoff provided senior-level cultural resource consultation related to Camp Pendleton's Basewide Utilities Infrastructure Improvements project. He provided consulting on cultural resource management for several waste treatment and utility line systems as part of the Camp's "Grow the Force" initiative. (2011 – October 2013)

**Water Projects:**

- **Pacoima Spreading Grounds Improvement Project, LACDPW, Los Angeles County, CA.** Cultural Principal. Dr. Bischoff managed the cultural resources record search and CEQA cultural section mitigation measures of an EIR for the improvement of the Pacoima spreading grounds and related canal resources. (April 2013 – October 2013)
- **Devil's Gate Reservoir Sediment Removal and Management Project, LACDPW, Los Angeles County, CA.** Principal of Cultural Resources. This project involved removal of sediment within the Devil's Gate Reservoir area, which required a preliminary cultural survey and record search under CEQA, as well as an EIR. Dr. Bischoff served as the cultural principal for the project and provided a recommended plan for dealing with sedimentary soils vs. native soils, monitoring criteria, and potential discovery situations. Dr. Bischoff helped write Environmental Impact Report sections, and worked with the Gabrieleno Tribal Group in the protection of archaeological and tribal cultural resources. (2011 – October 2013)

- **Peck Road Spreading Basin Improvement Project, LACDPW, Los Angeles County, CA.** Cultural Principal. Dr. Bischoff managed the cultural resources record searches, field survey, paleontological survey, and CEQA cultural section mitigation measures of an MND for the improvement of the Peck Road Spreading Basin, including a related new water discharge pipe. (June 2013 – September 2013)
- **Marina Del Rey Waterline Replacement Project Cultural Monitoring, LACDPW, Los Angeles County, CA.** Cultural Principal. This project with the Los Angeles Department of Public Works involved the cultural monitoring for the Marina Del Rey 18-inch Waterline Replacement. Chambers Group also provided a qualified archaeological monitor at the project site during excavation activities during construction. (March - May 2013)
- **Dieguto Wetlands Restoration Monitoring, Southern California Edison, Del Mar, San Diego County, CA.** Principal Investigator and Project Manager. This project involved the extensive rehabilitation of Southern California Edison property as part of the Dieguto Wetlands Restoration project. (April 2012 - January 2013)
- **Live Oaks Spreading Grounds Project, LACDPW, Los Angeles County, CA.** Cultural Principal. Dr. Bischoff managed the cultural resources record search and site visit for this public works project. (April 2013 – October 2013)
- **Los Penasquitos Wetlands Monitoring, AMEC, Del Mar, San Diego County, CA.** Principal Investigator. Dr. Bischoff managed the monitoring tasks, budgets, and professional standards for this project near the City of Del Mar as part of the Torrey Pines State Nature Reserve restoration. (October - December 2012)
- **San Gorgonio Creek Water Recharge Basin Construction Monitoring, Beaumont Cherry Valley Water District, Cherry Valley, Riverside County, CA.** Principal and Project Manager. This project involved paleontological and archaeological construction monitoring during construction, including emergency evaluation and monitoring when early 19Th Century structures and materials were unexpectedly encountered during earth moving. (February 2012 – April 2012)
- **Penmar Golf Course Water Quality Improvement Project, Pacific Hydrotech and City of Santa Monica, Santa Monica, CA.** Principal Investigator. Dr. Bischoff managed QA/QC review, budgets, and professional standards for the project in the City of Venice. Penmar was a multi-year waterline and tank improvement project in which evidence of ethnic Japanese barrios and fossil Pleistocene animal bones were discovered. (November 2011 - November 2012)
- **Oxford Retention Basin Flood Protection Project, LACDPW, Los Angeles County, CA.** Principal and Project Manager. The Oxford Basin in Marina Del Rey was receiving enhancement, and Dr. Bischoff managed the completion of the cultural survey, literature review, and construction monitoring for the project. (2011 - 2012)

**Public Works Projects:**

- **Veterans Administration, VISN 21 On-Call, Western States, Teamed with KAL Architects.** This project will provide cultural and biological technical services for Veterans Administration projects from October 2013 to October 2018. (October 2013 – October 2013)
- **Historic Structure Evaluations for Statewide Weatherization Efforts, sub to ICF for the State of California, All Counties, CA.** Project Manager and Principal. This project involves meeting NEPA compliance for low-income subsidized weatherization efforts throughout the State of California. Hundreds of structures will be evaluated as part of this project by a Chambers Architectural Historian using a abbreviated format. (November 2011 to October 2013)
- **CEQA Services for Improvements to Polytechnic and Wilson High Schools, LBUSD, City of Long Beach, CA.** Cultural Principal. Dr. Bischoff provided oversight and incorporation of the historic architecture technical reports into the project CEQA documents. (June 2013 – August 2013)

- **Mill Creek Crew Room Cultural Monitoring, Angeles National Forest (ANF), Los Angeles County, CA.** The County of Los Angeles Department of Public Works proposed to replace the crew room building within the Angeles Forest Mill Creek Summit Maintenance Yard facility. This CEQA/NHPA project involved the preparation of a treatment and discovery plan document, ARPA permitting, constant consultation with the ANF, construction monitoring, and a final monitoring report. (April – July 2013)
- **Review of Technical Report and CEQA Documents Relating to the Proposed Demolition of Santa Ana Public Building #16, City of Santa Ana, Santa Ana, CA.** Principal. This project involved the review of technical documents, mitigation measures, and CEQA documents relating to the demolition of a 1950s public building in the City of Santa Ana. (May 2013 – July 2013)
- **Roosevelt School, LBUSD, City of Long Beach, CA.** Cultural Principal. Dr. Bischoff provided oversight, authorship, and counsel on the EIR for the demolition of the Roosevelt Elementary School in Long Beach. This proved to be a complex project, involving an historic built environment resource evaluation and mitigation plan, legal investigation, and extensive responses to public comments. This process resulted in a HABS/HAER mitigation project. (November 2011 - June 2012)

**Transportation Projects:**

- **Foothill Toll Road Cultural and Paleontological Monitoring, Ghiradelli and Associates, Orange County, CA.** Principal and Project Manager for cultural monitoring related to the upgrade of all toll road payment stations in Orange County. (October 2013 – October 2013)
- **9th Street Extension Historic Structure Inventory and Evaluation, City of Holtville, Imperial County, CA.** Principal and Project Manager. Dr. Bischoff managed and provided QA/QC for this project involving a Caltrans inventory of project APE historic built environment resources, and the historic evaluation of a canal feature. Final deliverables included a Historic Resources Evaluation Report and a Historic Property Survey Report to CALTRANS standards. (June 2013 – August 2013)
- **Francisquito Bridges Replacement (3-Total), LADWP/CALTRANS, Los Angeles County, CA.** Principal. Dr. Bischoff managed and oversaw the completion of this project in the Angeles Forest. This project involved the replacement of three existing bridges on San Francisquito Canyon Road over San Francisquito Canyon Creek. The proposed improvement project involved widening the two lane bridges, improvement of approachment roadway, and the placement and installation of retaining walls, concrete barriers with tubular-steel handrails, and metal beam guardrails. (2011 – September 2013)
- **Murrieta Whitewood Road Extension, City of Murrieta, Riverside County, CA.** Principal and Project Manager. This road extension project involved a cultural resource survey and records search, a paleontological field study, and native American Consultation due to the historic use of the nearby Murrieta Hot Springs by local Native Americans. (April – June 2012)
- **Nuevo Road/ I-215 Interchange Improvement in the City of Perris, CALTRANS, Riverside County, CA.** Principal. Dr. Bischoff managed and provided QA/QC for this project involving street widening and additional improvements at the Nuevo Road/ I-215 interchange. Final deliverables included a SCCIC/NAHC record search and a survey report to CALTRANS standards. (2011 – 2012)
- **Soledad Canyon Road Bridge Replacement Project, LACDPW, Los Angeles County, CA.** Principal. LADPW intends to replace a bridge on Soledad Canyon Road. Chambers Group completed a SCCIC/NAHC record search and NAHC records review for potential archaeological resources. This project is on-going and may in the future involve further work, including cultural and historic structure surveys and evaluation. (2011 – 2012)

**Development Projects:**

- **Grove Lumber Facility Cultural and Paleontological Technical Studies, Thatcher Engineering, City of Perris, Riverside County, CA.** Principal for the cultural technical studies for this development project, including cultural and paleontological record searches, NAHC letters, and a cultural study (October 2013 – October 2013)
- **Newport Beach Yacht Club Evaluation, Community Development Department, City of Newport Beach, Orange County, CA.** Principal for this historic architecture project involving the built environment evaluation of the Newport Beach Yacht House. (October 2013 – October 2013)
- **Blossom Plaza Historic Structure Evaluation, China Town, City of Los Angeles, CA.** Principal for this historic architecture project involving the updating of technical reports and a standing structure evaluation. (July 2013 – September 2013)
- **Moreno Valley Residential Building Evaluation, City of Moreno Valley, Riverside, CA.** Principal for the architectural assessment of the J. Langdon Ranch located at 11761 Davis Street, in the city of Moreno Valley, Riverside County, California. (April 2013)
- **Indian Wells Tennis Court Development Project, Indian Wells, Riverside County, CA.** Principal Provided technical review of the planning documents cultural section, as well as oversaw Native American Heritage Commission communication for this project to enhance the Indian Wells Tennis Garden complex. (December 2012 – April 2013)
- **Scripps Hospital Paleontological and Archaeological Monitoring, Worley-Parsons, City of Encinitas, CA.** Principal Investigator. Dr. Bischoff managed QA/QC review, budgets, and professional standards for the cultural and paleontological monitoring of this large development project. (2011 - 2013)

**Mining Projects:**

- **Mining Projects, Quality Control and Management Support – Ormat, Enviroscientists, Newmont, McEwen, Midway, Reno, Nevada.** Dr. Bischoff was directly involved with the management of dozens of mining-related surveys, monitoring, and site evaluation projects conducted from the Chambers Group Reno, Nevada, office. Bureau of Land Management was the principal Federal agency. (2011 – October 2013)
- **Ruth Mine Reclamation Cultural Survey and Evaluation, ERRG and USACE, Inyo County, CA.** Principal. Dr. Bischoff oversaw the Intensive Phase I mapping of the Ruth Mine site, evaluation of several site features, and negotiations with the Army Corps of Engineers and the BLM. Extensive mapping of Mine features and structures were completed as part of this project. Bureau of Land Management was the principal Federal agency. (2011 - 2012)

**Staff Archaeologist, Marine Corps Base Camp Pendleton, San Diego County, CA.**
**June 2011 – Oct. 2011**

Dr. Bischoff was a staff cultural resources specialist at Camp Pendleton, and worked on NEPA, Section 106, and Section 110 compliance requirements for resource management and Base construction projects. Dr. Bischoff was responsible for writing, developing, and executing cultural sections of CATEXs, EAs, EISs, and organized/reviewed NHPA Section 106 and Section 110 reports. Types of projects included archaeological surveys and evaluations, historic research, and monitoring projects. He also performed historic structure surveys and evaluations, and wrote and prepared appropriate documentation to meet construction project cultural and environmental compliance requirements.

**Principle Investigator and Project Manager**, **Pacific Legacy, Inc**., **Lancaster, CA.**
**Sept. 2009 – June 2011**

While at Pacific Legacy, I acted as the cultural resource principal and project manager for various Pacific Legacy clients, including the San Jose Water District, Aera Energy, Berry Petroleum, Quad Knopf, AT&T, and **Southern California Edison**. My primary responsibility was the oversight of subcontracted services to Southern California Edison's Tehachapi Renewable Transmission Project (TRTP). The TRTP is one of the largest green-energy projects in the U.S. and involves the wreck-out and new construction of hundreds of transmission lines and power facilities to carry electricity from wind and solar generation sites to the greater Los Angeles area. During this time, I built the Lancaster office from a staff of two, to a fully-functioning regional office with a permanent staff of eight people and temporary staff of several dozen.

**Major Projects:**

- **Tehachapi Renewable Transmission Project (TRTP), Southern California Edison, Kern, Los Angeles, and San Bernardino Counties, CA.** Principal and Project Manager. Dr. Bischoff was responsible for all office and field operations that ensured the successful inventory and management of cultural resources related to this 300-mile transmission line project, including the management of standing historical structures and paleontological resources. He managed an annual budget in excess of $4 million, a staff of up to 40 persons, wrote compliance documents (Programmatic Agreement Appendices, ARPA permits, Project Agency Yearly Reports, and Management Plans), and managed hazmat situations. Dr. Bischoff completed over 150 individual projects in southern California including survey, evaluation, mitigation, and resource monitoring. He wrote individual budgets for project-specific tasks, as well as construction-related administrative tasks, each with different scopes of work and budget amounts. He reconciled all budgets on a monthly basis and coordinated them with the master construction schedule. Dr. Bischoff managed field compliance with NEPA, with TRTP-specific environmental agency agreements, and with the cultural section of the project EIR/EIS and Programmatic Agreement. He also met legal and agency guidelines for Section 106 of NHPA, CEQA, NAGPRA, and TRTP Cultural Resource Management Plan. The Angeles National Forest was the lead Federal Agency, but the CPUC and other Federal and California State Agencies were also involved. (November 2009 - June 2011)
- **East Kern Wind Resource Area (EKWRA) Power Pole Replacement Project, Southern California Edison, Kern County, CA.** Principal and Project Manager. Dr. Bischoff managed original technical studies for a project designed to replace hundreds of power poles in the Tehachapi Mountains area in support of new wind farm construction. He conducted large area surveys, some on BLM properties, and developed a management plan for dozens of archaeological sites. Bureau of Land Management was the principal Federal agency. (February 2010 - June 2011)
- **San Jose Salt Barge HAER Documentation Project, USACE and Santa Clara Valley Water District, City of San Jose, CA.** Principal. Dr. Bischoff consulted on the excavation and evaluation of a shallow-water shipwreck discovered during a wetlands rehabilitation project. This project involved USACE, San Francisco District as lead agency and the Water District as client. (January – February 2011)
- **Operations and Maintenance Contract, Southern California Edison. Southern California.** I acted as the Principal for all work orders issued to our office under the O/M contract. A major task under this contract was the response to the Crown Fire in 2010. I worked directly with SCE during and immediately after the fire to evaluate and protect cultural resources. (Jan 2010 - June 2011)

- **Crown Fire Survey and Cultural Site Update, Southern California Edison, Los Angeles County, CA.** Project Manager. Dr. Bischoff led the cultural response to the Crown Fire, which included surveying and updating known cultural sites as part of the SCE post-fire power pole and access road inspection. (August – Sept. 2010)

# APPENDIX E-1

# Geotechnical Engineering Investigation

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*
439 Western Avenue
Glendale, California 91201-2837
818.240.9600 • Fax 818.240.9675

July 29, 2020
File Number 22006

Klare Holdings and its Subsidiary
3601 East First Street
Los Angeles, California 90063

Attention: Kyle Salyer

Subject: Geotechnical Engineering Investigation
Proposed Elementary School
1628 East 81st Street, Los Angeles, California

Dear Mr. Salyer:

This letter transmits the Geotechnical Engineering Investigation for the subject site prepared by Geotechnologies, Inc. This report provides geotechnical recommendations for the development of the site, including earthwork, seismic design, excavations, retaining walls, shoring, and foundation design. Engineering for the proposed project should not begin until approval of the geotechnical investigation is granted by the local building official. Significant changes in the geotechnical recommendations may result due to the building department review process.

The validity of the recommendations presented herein is dependent upon review of the geotechnical aspects of the project during construction by this firm. The subsurface conditions described herein have been projected from limited subsurface exploration and laboratory testing. The exploration and testing presented in this report should in no way be construed to reflect any variations which may occur between the exploration locations or which may result from changes in subsurface conditions.

Should you have any questions please contact this office.

Respectfully submitted,
GEOTECHNOLOGIES, INC.

EDMOND V. BABAYAN
Staff Engineer

EDWARD F. HILL
G.E. 2126

REGISTERED PROFESSIONAL ENGINEER
EDWARD F. HILL
No. 2126
Exp. 6/30/22
GEOTECHNICAL
STATE OF CALIFORNIA

EFH/EVB:dy

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Email to: [ksalyer@kippla.org], Attn: Kyle Salyer
[kathy@edfacgroup.org]

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ENCLOSURES

# GEOTECHNICAL ENGINEERING INVESTIGATION
# PROPOSED ELEMENTARY SCHOOL
# 1628 EAST 81st STREET
# LOS ANGELES, CALIFORNIA

## INTRODUCTION

This report presents the results of the geotechnical engineering investigation performed on the subject site. The purpose of this investigation was to identify the distribution and engineering properties of the geologic materials underlying the site, and to provide geotechnical recommendations for the design of the proposed development.

This investigation included excavation of two exploratory borings, performance of two Cone Penetration Test soundings (CPTs), collection of representative samples, laboratory testing, engineering analysis, review of published geologic data, review of available geotechnical engineering information and the preparation of this report. The boring and CPT locations are shown on the enclosed Plot Plan. The results of the exploration and laboratory tests are provided in the Appendix of this report.

## PROPOSED DEVELOPMENT

Information concerning the proposed project was furnished by the client. Based on review of design plans prepared by Berliner Architects, dated February 25, 2020, the proposed project consists of a new elementary school. The structure is proposed to be two stories in height built upon a single subterranean parking level. Additional features including outdoor play areas, driveways for vehicular access, paved walkways, and landscaping are anticipated as part of the proposed development.

Column loads are estimated to be between 300 and 500 kips. Wall loads are estimated to be between 2 and 6 kips per lineal foot. Grading will consist of excavations on the order of 10 feet below the existing grade for the proposed single subterranean parking level. The enclosed Plot Plan shows the layout of proposed development and its location relative to surrounding structures.

Any changes in the design or location of the structure, as outlined in this report, should be reviewed by this office. The recommendations contained herein should not be considered valid until reviewed and modified or reaffirmed subsequent to such review.

## SITE CONDITIONS

The site is located at 1628 East 81st Street in the Nadeau area of the County of Los Angeles, California. The site exhibits an L-shaped configuration and is bounded by East 81st Street to the north, by Maie Avenue to the east, by East 82nd Street to the south, and by single-family residential properties to the west. The site is shown relative to nearby topographic features in the enclosed Vicinity Map.

At the time of exploration, the site was developed with an asphalt-paved parking lot. Along the perimeter of the parking lot, a roughly 2-foot high CMU retaining wall topped with a chain-link fence runs along 82nd Street, Maie Avenue, and 81st Street. Based on the topographic survey provided by the client, the site gradually descends towards the southeast with ground elevations ranging from approximately 140 feet above MSL near the northwest corner to approximately 138 feet above MSL near the southeast corner. Vegetation is present along the perimeter of the site, beyond the existing retaining wall, consisting of grass, bushes, and trees. Drainage across the site is by sheetflow along the existing topographic contours directed east and southeast towards the adjacent city streets. The surrounding developments consist predominantly of commercial and residential structures.

# GEOTECHNICAL EXPLORATION

## FIELD EXPLORATION

The site was explored on June 29, 2020 by excavating two exploratory borings and performing two Cone Penetration Test Soundings (CPTs). Borings B1 and B2 were excavated to a depth of 60 feet below the existing grade with the aid of a truck-mounted drilling machine using 8-inch diameter hollow-stem augers. Soil samples were collected from the borings at regular intervals for laboratory testing. The two CPT soundings were advanced to a depth of 60 feet below the existing grade.

The locations of the exploratory borings and CPT soundings were determined by measurements relative to hardscape features onsite and are shown on the enclosed Plot Plan. The elevations of the explorations were determined by interpolation of elevation contours shown on the enclosed Plot Plan. The locations and elevations of the borings and CPT soundings should be considered accurate only to the degree implied by the method used.

### Geologic Materials

The geologic materials underlying the site consist of existing fill and native alluvial soils. Fill materials were encountered within the exploratory borings to a depth of 3 feet below the existing grade consisting of silty sand which are dark to grayish brown in color, moist, medium dense, and fine grained.

The fill is underlain by native alluvial soils consisting of sandy silts and silty sands to sands with occasional clay layers intermixed. The alluvium ranges from dark to yellowish to grayish brown and gray in color, moist, medium dense to dense, and fine grained. The native alluvial soils consist predominantly of sediments deposited by river and stream action typical to this area of Los Angeles County. Interpretations and more detailed descriptions of the geologic materials encountered are provided in the Boring Logs and CPT Sounding Data Logs enclosed the Appendix of this report.

## Groundwater

Groundwater was not encountered during exploration to a maximum excavated depth of 60 feet below the existing grade. Review of the Seismic Hazard Zone Report (SHZR) for the South Gate 7.5-Minute Quadrangle, (CDMG 1998, Revised 2006) indicates that the historically highest groundwater level is on the order of 15 feet below the ground surface. Fluctuations in the level of groundwater may occur due to variations in rainfall, temperature, and other factors not evident at the time of the measurements reported herein. Fluctuations also may occur across the site. High groundwater levels can result in changed conditions.

## Caving

Caving could not be directly observed during exploration due to the type of excavation equipment utilized. Based on the experience of this firm, large diameter excavations, excavations that encounter granular, cohesionless soils and excavations below the groundwater table will most likely experience caving.

## Previous Geotechnical Exploration

The geotechnical aspects of the site have been previously addressed by Twining. A report was prepared which is entitled "Geotechnical Evaluation Report", Project Number 180870.1, dated November 15, 2018. The report is based on 5 exploratory excavations between 6-1/2 and 51-1/2 feet in depth. The boring locations are shown on the enclosed plot plan and the boring logs are included in the appendix of this report.

# SEISMIC EVALUATION

## REGIONAL GEOLOGIC SETTING

The subject site is located within the Los Angeles Basin and Peninsular Ranges Geomorphic Province. The Peninsular Ranges are characterized by northwest-trending blocks of mountain ridges and sediment-floored valleys. The dominant geologic structural features are northwest trending fault zones that either die out to the northwest or terminate at east-west trending reverse faults that form the southern margin of the Transverse Ranges.

The Los Angeles Basin is located at the northern end of the Peninsular Ranges Geomorphic Province. The basin is bounded by the east and southeast by the Santa Ana Mountains and San Joaquin Hills, and to the northwest by the Santa Monica Mountains. Over 22 million years ago, the Los Angeles Basin was a deep marine basin formed by tectonic forces between the North American and Pacific plates. Since that time, over 5 miles of marine and non-marine sedimentary rock as well as, intrusive and extrusive igneous rocks have filled the basin. During the last 2 million years, defined by the Pleistocene and Holocene epochs, the Los Angeles Basin and surrounding mountain ranges have been uplifted to form the present-day landscape. Erosion of the surrounding mountains has resulted in deposition of unconsolidated sediments in low-lying areas by rivers such as the Los Angeles River. Areas that have experienced subtle uplift have been eroded with gullies (Yerkes, 1965).

## REGIONAL FAULTING

Based on criteria established by the California Division of Mines and Geology (CDMG) now called California Geologic Survey (CGS), faults may be categorized as active, potentially active, or inactive. Active faults are those which show evidence of surface displacement within the last 11,000 years (Holocene-age). Potentially-active faults are those that show evidence of most recent surface displacement within the last 1.6 million years (Quaternary-age). Faults showing no evidence of surface displacement within the last 1.6 million years are considered inactive for most purposes, with the exception of design of some critical structures.

Buried thrust faults are faults without a surface expression but are a significant source of seismic activity. They are typically broadly defined based on the analysis of seismic wave recordings of hundreds of small and large earthquakes in the southern California area. Due to the buried nature of these thrust faults, their existence is usually not known until they produce an earthquake. The risk for surface rupture potential of these buried thrust faults is inferred to be low (Leighton, 1990). However, the seismic risk of these buried structures in terms of recurrence and maximum potential magnitude is not well established. Therefore, the potential for surface rupture on these surface-verging splays at magnitudes higher than 6.0 cannot be precluded.

## SEISMIC HAZARDS AND DESIGN CONSIDERATIONS

The primary geologic hazard at the site is moderate to strong ground motion (acceleration) caused by an earthquake on any of the local or regional faults. The potential for other earthquake-induced hazards was also evaluated including surface rupture, liquefaction, dynamic settlement, inundation and landsliding.

### Surface Rupture

In 1972, the Alquist-Priolo Special Studies Zones Act (now known as the Alquist-Priolo Earthquake Fault Zoning Act) was passed into law. The Act defines “active” and “potentially active” faults utilizing the same aging criterial as that used by California Geological Survey (CGS). However, established state policy has been to zone only those faults which have direct evidence of movement within the last 11,000 years. It is this recency of fault movement that the CGS considers as characteristic for faults that have a relatively high potential for ground rupture in the future.

The CGS policy is to delineate a boundary from 200 to 500 feet wide on each side of the known fault trace based on the location precision, the complexity, or the regional significance of the fault. If a site lies within an Earthquake Fault Zone, a geologic fault rupture investigation must be performed that demonstrates that the proposed building site is not threatened by surface displacement from the fault before development permits may be issued.

Based on research of available literature, no known active of potentially active faults underlie the subject site. Review of the Earthquake Zones of Required Investigation web resource (CGS) indicates that the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. Based on these considerations, the potential for surface rupture at the subject site is considered low.

## Liquefaction

Liquefaction is a phenomenon in which saturated silty to cohesionless soils below the groundwater table are subject to a temporary loss of strength due to the buildup of excess pore pressure during cyclic loading conditions such as those induced by an earthquake. Liquefaction-related effects include loss of bearing strength, amplified ground oscillations, lateral spreading, and flow failures.

Liquefaction typically occurs in areas where groundwater is less than 50 feet from the surface, and where the soils are composed of poorly consolidated, fine to medium-grained sand. In addition to the necessary soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to initiate liquefaction.

According to the State of California Seismic Hazards Zone Map for the South Gate Quadrangle (CDMG, 1999), the site is located within a liquefiable area. This determination is based on groundwater depth records, soil type and distance to a fault capable of producing a substantial earthquake.

Site-specific liquefaction analyses were performed utilizing Standard Penetration Test data and laboratory testing of soil samples collected from the exploratory borings which were supplemented by Cone Penetration Test (CPT) Sounding data. CPT Soundings 1 and 2 (CPT-1 and CPT-2) were performed adjacent to Borings B1 and B2 (respectively), for the purpose of comparison and correlation of soil data.

Groundwater was not encountered during exploration to a maximum excavated depth of 60 feet below the existing grade. According to the Seismic Hazard Zone Report of the South Gate 7.5-Minute Quadrangle (CDMG, 1998, Revised 2006), the historically highest groundwater level for the subject site is approximately 15 feet below the ground surface. A groundwater level of 15 feet below the ground surface was utilized for the enclosed SPT and CPT liquefaction analyses.

Section 11.8.3 of ASCE 7-16 indicates that the potential for liquefaction shall be evaluated utilizing a site-modified peak ground acceleration ($PGA_M$) corresponding to the Maximum Considered Earthquake ($MCE_G$). The OSHPD Seismic Design Maps Tool yielded a site class modified peak ground acceleration ($PGA_M$) of 0.85g. The USGS Probabilistic Seismic Hazard Analysis Deaggregation program (USGS, 2014) was utilized to determine the magnitude of the Maximum Considered Earthquake ($MCE_G$). The deaggregation program yielded a mean magnitude ($M_w$) of 6.8 for the site. Therefore, the liquefaction potential evaluations were performed by using a magnitude 6.8 earthquake and a peak ground acceleration of 0.85g.

## Standard Penetration Test (SPT) – Liquefaction Analyses

Site-specific liquefaction analyses were performed following Guidelines for Evaluating and Mitigating Seismic Hazards in California Special Publication 117A (CGS, 2008). In addition, recommendations provided in EERI Monograph (MNO-12) (Idriss and Boulanger, 2008) were also incorporated into the analyses.

The enclosed "Liquefaction Potential" SPT analyses are based on Borings B1 and B2. Standard Penetration Test (SPT) data were collected at 5-foot intervals. Samples of the collected materials obtained from the exploratory borings were conveyed to the laboratory for testing and analysis. The fines content, defined as the percentage passing a Number 200 sieve, Atterberg Limits, and the plasticity index (PI) of representative soil samples susceptible to liquefaction were determined. Results of these laboratory tests are presented on the enclosed E-Plates. According to SP117A, soils having a Plasticity Index greater than 12 exhibit clay-like behavior, and the liquefaction potential of these soils are considered to be low. Therefore, where the results of Atterberg Limits testing showed a Plasticity Index greater than 12, the soils would be considered non-liquefiable, and these layers would be turned-off in the SPT liquefaction analysis.

Based on criteria set forth in CGS Special Publication SP117A, a factor of safety against the occurrence of liquefaction greater than about 1.3 can be considered an acceptable level of risk where high-quality, site-specific penetration resistance and geotechnical laboratory data is collected. The SPT liquefaction analyses indicated a localized soil layer susceptible to liquefaction underlying the site. This liquefiable stratum was identified at depths of 15 to 19 feet within Boring B1. The SPT liquefaction calculations have been enclosed in the Appendix of this report.

## Cone Penetration Test (CPT) – Liquefaction Analyses

Liquefaction analyses were also performed using data from two CPT soundings. Advantages associated with the Cone Penetration Test are its repeatability and its ability to provide relatively continuous profiling of the underlying soils, making it very useful for highly stratified subsurface conditions.

CPT data were analyzed utilizing the liquefaction assessment software CLiq v.3.0.2.4 (Geologismiki, 2006). The analyses are based on published articles by (Robertson and Wride, 1998) and (Youd et al. 2001). The program estimates the soil characteristics directly from the CPT data and incorporates the interpreted results into an evaluation of their resistance to cyclic loading.

It should be noted that the evaluations for liquefaction potential were limited to a depth of 60 feet below the ground surface.

The CPT liquefaction analyses indicate that the soils underlying the site would be susceptible to liquefaction at various depths below the ground surface. These potentially liquefiable layers were identified intermittently at depths ranging from approximately 15 to 58 feet below the existing grade.

## Dynamic Settlement

Seismically-induced settlements have been calculated utilizing the results of the liquefaction analyses based on SPT blow count data and the CPT soundings. The results of the liquefaction analyses are provided in the following table.

(*) – intermittently occur over the indicated depth range

| SPT & CPT LIQUEFACTION ANALYSES | | |
|---|---|---|
| **Boring / CPT Sounding** | **Potentially Liquefiable Layers (Depth Below Ground Surface, feet)** | **Total Liquefaction Settlement (inches)** |
| B1 | 15 - 20 | 1.11 |
| CPT-1 | 15 – 20<br>24 – 42 (*)<br>52 - 58 (*) | 1.65 |
| CPT-2 | 15 – 32 (*)<br>37 – 47 (*)<br>53 -58 (*) | 1.02 |

Based on the enclosed SPT liquefaction analyses, the total seismically-induced settlement could reach a value of 1.11 inches. The CPT analyses indicated potential liquefaction settlements ranging from 1.02 to 1.65 inches.

According to SP 117A, the differential seismic settlement to be used in foundation design should be up to two-thirds of the maximum total settlement. Based upon the largest seismic settlement determined from the site-specific liquefaction analyses (1.65 inches), this would correlate to a differential settlement of approximately 1.1 inches.

## Surface Manifestation

It has been shown in the recent studies by O'Rourke and Pease (1997) and Youd and Garris (1995), building upon work by Ishiharra (1985), that the visible effects of liquefaction on the ground surface are only manifested if the relative and absolute thicknesses of liquefiable soils to overlying non-liquefiable surface material fall within a certain range. On the subject site, given the relatively shallow historic groundwater level, and that some of the liquefiable layers are close to the surface, the likelihood that surface effects of liquefaction could occur on the subject site would be considered high.

The study by Ishihara (1985) presents data from three separate earthquakes where subsurface information was available regarding the absolute and relative thicknesses of liquefiable earth materials and overlying non-liquefiable materials. Information was obtained from sites where the surface effects of liquefaction were observed, and from sites where there were no visible surface effects. From this data, Ishihara (1985) graphs the liquefiable soil thickness vs. the overlying non-liquefiable thickness, and presents bounds identifying a zone within which surface effects of liquefaction were observed.

Youd and Garris (1995) build upon the work by Ishihara (1985), compiling data from 308 borings taken at sites shaken by 15 different earthquakes, ranging in magnitude from 5.3 to 8.0. They find that the boundaries presented by Ishihara relating the thicknesses of non-liquefiable surface layers to underlying potentially liquefiable layers remain valid for this extensive set of data, with very few exceptions. The particular site conditions which contributed to the few exceptional cases are not present on the subject site.

O'Rourke and Pease (1997) also compare the liquefiable vs. non-liquefiable thickness bounds initially proposed by Ishihara (1985) with data obtained from areas of San Francisco where the surface effects of liquefaction were observed during the 1989 Loma Prieta earthquake. They find general agreement with the previous finding of Ishihara (1985) and Youd and Garris (1995).

The proposed structure would be supported on a compacted fill pad. The dense compacted fill should serve to mitigate any surface manifestation effects.

## Lateral Spreading

Lateral spreading is the most pervasive type of liquefaction-induced ground failure. During lateral spread, blocks of mostly intact, surficial soil displace downslope or towards a free face along a shear zone that has formed within the liquefied sediment. According to the procedure provided by Bartlett, Hansen, and Youd, "Revised Multilinear Regression Equations for Prediction of Lateral Spread Displacement", ASCE, Journal of Geotechnical Engineering, Vol. 128, No. 12, December 2002, when the saturated cohesionless sediments with $(N_1)_{60} > 15$, significant displacement is not likely for $M < 8$ earthquakes.

During liquefaction analysis of the site, localized cohesionless sediment layers underlying the subject site were identified with corrected $(N_1)_{60}$ value lower than 15. However, the modal earthquake magnitude which contributes the majority of the ground motion at the site is 6.8. Due to the level topography within and adjacent to the subject site, the potential for lateral spreading is considered to be unlikely.

## Tsunamis, Seiches and Flooding

Tsunamis are large ocean waves generated by sudden water displacement caused by a submarine earthquake, landslide, or volcanic eruption. Review of the County of Los Angeles Flood and Inundation Hazards Map, (Leighton, 1990), indicates the site does not lie within mapped tsunami inundation boundaries. The site is far and/or high enough from the ocean or lakes such that it would not be prone to hazards of a tsunami or seiche.

Seiches are oscillations generated in enclosed bodies of water which can be caused by ground shaking associated with an earthquake. Review of the County of Los Angeles Flood and Inundation Hazards Map, Leighton (1990), indicates the site falls within mapped inundation boundaries due to a seiche or a breached upgradient reservoir. A determination of whether a higher site elevation would remove the site for the potential inundation zones is beyond the scope of this investigation.

### Landsliding

The probability of seismically-induced landslides affecting the subject development is considered to be low, due to the lack of elevation difference across of adjacent to the site.

## CONCLUSIONS AND RECOMMENDATIONS

Based upon the exploration, laboratory testing, and research, it is the finding of this firm that the proposed project is considered feasible from a geotechnical engineering standpoint provided the advice and recommendations presented herein are followed and implemented during construction.

A maximum of three feet of existing fill material was encountered during exploration conducted on the subject property. The existing fill materials are considered to be unsuitable for support of the proposed foundations, floor slabs, or additional fill, but may be reused for the preparation of a compacted fill pad. Groundwater was not encountered during site excavation to a maximum explored depth of 60 feet below existing site grade. Historically highest groundwater is estimated at 15 feet below ground surface.

The granular fill soils and alluvial sediments are subject to liquefaction during the design level ground motion, with estimated total settlement between 1.02 to 1.65 inches. Differential settlement is estimated to be on the order of 1.1 inches. Based on the result of the SPT and CPT liquefaction analyses, the majority of the liquefiable zones occur between 15 and 40 feet below the existing site grade, with a few deeper thin layers indicated by the CPT soundings.

The proposed structure should be supported on a mat foundation. The mat should be designed to resist the estimated total settlement of 1.65 inches and differential settlement of 1.1 inches. The mat foundation should be underlain by a minimum of 3 feet of newly placed controlled fill. All utilities, servicing the proposed structure should have flexible connections to accommodate up to 4 inches of vertical displacement in the event of a major seismic event.

Foundations for small outlying structures, such as property line walls and trash enclosures, which will not be tied-in to the proposed school, may be supported on conventional foundations bearing in undisturbed alluvial soils or certified compacted fill.

The following statement is made in regard to Los Angeles County Code Sections 110 and 111: It is the opinion of the undersigned based on the findings of this investigation that provided the recommendations presented in this report are followed, the proposed development will be safe for its intended use against hazard from landsliding, settlement or slippage. The proposed development will have no adverse effect on the stability of the site or adjoining properties.

The validity of the conclusions and design recommendations presented herein is dependent upon review of the geotechnical aspects of the proposed construction by this firm. The subsurface conditions described herein have been projected from excavations on the site as indicated and should in no way be construed to reflect any variations which may occur between these excavations or which may result from changed in subsurface conditions. Any changes in the design, as outlined in this report, should be reviewed by this office. The recommendations contained herein should not be considered valid until reviewed and modified or reaffirmed subsequent to such review.

## SEISMIC DESIGN CONSIDERATIONS

### California Building Code Seismic Parameters

Based on information derived from the subsurface investigation, the subject site is classified as Site Class D, which corresponds to a “Stiff Soil” Profile, according to Table 20.3-1 of ASCE 7-16. This information and the site coordinates were input into the OSHPD seismic utility program in order to calculate ground motion parameters for the site.

| **CALIFORNIA BUILDING CODE SEISMIC PARAMETERS** | |
|---|---|
| California Building Code | 2019 |
| ASCE Design Standard | 7-16 |
| Risk Category | II |
| Site Class | D |
| Mapped Spectral Acceleration at Short Periods ($S_S$) | 1.797g |
| Site Coefficient ($F_a$) | 1.0 |
| Maximum Considered Earthquake Spectral Response for Short Periods ($S_{MS}$) | 1.797g |
| Five-Percent Damped Design Spectral Response Acceleration at Short Periods ($S_{DS}$) | 1.198g |
| Mapped Spectral Acceleration at One-Second Period ($S_1$) | 0.637g |
| Site Coefficient ($F_v$) | 1.7* |
| Maximum Considered Earthquake Spectral Response for One-Second Period ($S_{M1}$) | 1.083g* |
| Five-Percent Damped Design Spectral Response Acceleration for One-Second Period ($S_{D1}$) | 0.725g* |

** According to ASCE 7-16, a Long Period Site Coefficient ($F_v$) of 1.7 may be utilized provided that the value of the Seismic Response Coefficient ($C_s$) is determined by Equation 12.8-2 for values of $T \leq 1.5T_s$ and taken as equal to 1.5 times the value computed in accordance with either Equation 12.8-3 for $T_L \geq T > 1.5T_s$ or equation 12.8-4 for $T > T_L$. Alternatively, a site-specific ground motion hazard analysis may be performed in accordance with ASCE 7-16 Section 21.1 and/or a ground motion hazard analysis in accordance with ASCE 7-16 Section 21.2 to determine ground motions for any structure.*

## FILL SOILS

The maximum depth of fill encountered on the site was three feet. The existing fill soils are not suitable for support of newly proposed foundations, floor slabs or additional fill but may be reused as compacted fill. The existing fill materials should be removed and recompacted for support of the recommended mat foundation.

## EXPANSIVE SOILS

The onsite geologic materials are in the very low expansion range. The Expansion Index was found to be 17 for bulk samples remolded to 90 percent of the laboratory maximum density. Recommended reinforcing is provided in the "Foundation Design" and "Slabs-on-grade" sections of this report.

## WATER-SOLUBLE SULFATES

The Portland cement portion of concrete is subject to attack when exposed to water-soluble sulfates. Usually the two most common sources of exposure are from soil and marine environments.

The sources of natural sulfate minerals in soils include the sulfates of calcium, magnesium, sodium, and potassium. When these minerals interact and dissolve in subsurface water, a sulfate concentration is created, which will react with exposed concrete. Over time sulfate attack will destroy improperly proportioned concrete well before the end of its intended service life.

The water-soluble sulfate content of the onsite geologic materials was tested by California Test 417. The water-soluble sulfate content was determined to be less than 0.1% percentage by weight for the soils tested. Based on American Concrete Institute (ACI) Standard 318-11, the sulfate exposure is considered to be negligible for geologic materials with less than 0.1% and Type 1 cement may be utilized for concrete foundations in contact with the site soils.

## GRADING GUIDELINES

The following grading guidelines may be utilized for any miscellaneous site grading which may be required as part of the proposed development.

### Site Preparation

- A thorough search should be made for possible underground utilities and/or structures. Any existing or abandoned utilities or structures located within the footprint of the proposed grading should be removed or relocated as appropriate.
- All vegetation, existing fill, and soft or disturbed geologic materials should be removed from the areas to receive controlled fill. All existing fill materials and any disturbed geologic materials resulting from grading operations shall be completely removed and properly recompacted prior to foundation excavation.
- Any vegetation or associated root system located within the footprint of the proposed structures should be removed during grading.
- Subsequent to the indicated removals, the exposed grade shall be scarified to a depth of six inches, moistened to optimum moisture content, and recompacted in excess of the minimum required comparative density.
- The excavated areas shall be observed by the geotechnical engineer prior to placing compacted fill.

### Recommended Overexcavation

Within the proposed building area, all existing fill and upper native alluvial soils shall be excavated to a minimum depth of 3 feet below the bottom of the recommended mat foundation. In addition, the excavation shall extend horizontally at least 3 feet beyond the edge of foundations, or for a distance equal to the depth of fill below the foundations, whichever is greater. It is very important that the position of the proposed structure is accurately located so that the limits of the graded area are accurate, and the grading operation proceeds efficiently.

## Compaction

All fill should be mechanically compacted in layers not more than 8 inches thick. Based on the moderate expansion index of the site soils, it is recommended that fill materials are moisture conditioned to approximately 3 percent over optimum moisture content before recompaction. All fill should be compacted to at least 90 percent of the maximum laboratory density for the materials used. The maximum density shall be determined by the laboratory operated by Geotechnologies, Inc. using the test method described in the most recent revision of ASTM D 1557.

Field observation and testing shall be performed by a representative of the geotechnical engineer during grading to assist the contractor in obtaining the required degree of compaction and the proper moisture content. Where compaction is less than required, additional compactive effort shall be made with adjustment of the moisture content, as necessary, until minimum of 90 percent compaction obtained.

## Acceptable Materials

The excavated onsite materials are considered satisfactory for reuse in the controlled fills as long as any debris and/or organic matter is removed.

Any imported materials shall be observed and tested by the representative of the geotechnical engineer prior to use in fill areas. Imported materials should contain sufficient fines so as to be relatively impermeable and result in a stable subgrade when compacted. Any required import materials should consist of geologic materials with an expansion index of less than 20. The water-soluble sulfate content of the import materials should be less than 0.1% percentage by weight.

Imported materials should be free from chemical or organic substances which could affect the proposed development. A competent professional should be retained in order to test imported materials and address environmental issues and organic substances which might affect the proposed development.

## Utility Trench Backfill

Utility trenches should be backfilled with controlled fill. The utility should be bedded with clean sands at least one foot over the crown. The remainder of the backfill may be onsite soil compacted to 90 percent of the laboratory maximum density. Utility trench backfill should be tested by representatives of this firm in accordance with the most recent revision of ASTM D-1557.

## Shrinkage

Shrinkage results when a volume of soil removed at one density is compacted to a higher density. A shrinkage factor between 5 and 15 percent should be anticipated when excavating and recompacting the existing fill and underlying native geologic materials on the site to an average comparative compaction of 92 percent.

## Weather Related Grading Considerations

When rain is forecast all fill that has been spread and awaits compaction shall be properly compacted prior to stopping work for the day or prior to stopping due to inclement weather. These fills, once compacted, shall have the surface sloped to drain to an area where water can be removed.

Temporary drainage devices should be installed to collect and transfer excess water to the street in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Drainage should not be allowed to flow uncontrolled over any descending slope.

Work may start again, after a period of rainfall, once the site has been reviewed by a representative of this office. Any soils saturated by the rain shall be removed and aerated so that the moisture content will fall within three percent of the optimum moisture content.

Surface materials previously compacted before the rain shall be scarified, brought to the proper moisture content and recompacted prior to placing additional fill, if considered necessary by a representative of this firm.

## Abandoned Seepage Pits

No abandoned seepage pits were encountered during exploration and none are known to exist on the site. However, should such a structure be encountered during grading, options to permanently abandon seepage pits include complete removal and backfill of the excavation with compacted fill, or drilling out the loose materials and backfilling to within a few feet of grade with slurry, followed by a compacted fill cap.

If the subsurface structures are to be removed by grading, the entire structure should be demolished. The resulting void may be refilled with compacted soil. Concrete and brick generated during the seepage pit removal may be reused in the fill as long as all fragments are less than 6 inches in longest dimension and the debris comprises less than 15 percent of the fill by volume. All grading should comply with the recommendations of this report.

Where the seepage pit structure is to be left in place, the seepage pits should cleaned of all soil and debris. This may be accomplished by drilling. The pits should be filled with minimum 1- ½ sack concrete slurry to within 5 feet of the bottom of the proposed foundations. In order to provide a more uniform foundation condition, the remainder of the void should be filled with controlled fill.

## Geotechnical Observations and Testing During Grading

Geotechnical observations and testing during grading are considered to be a continuation of the geotechnical investigation. It is critical that the geotechnical aspects of the project be reviewed by this firm during the construction process. Compliance with the design concepts, specifications or recommendations during construction requires review by this firm during the course of construction. Any fill which is placed should be observed, tested, and verified if used for engineered purposes. Please advise this office at least twenty-four hours prior to any required site visit.

## LEED Considerations

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System encouraged adoption of sustainable green building and development practices. Credit for LEED Certification can be assigned for reuse of construction waste and diversion of materials from landfills in new construction.

In an effort to provide the design team with a viable option in this regard, demolition debris could be crushed onsite in order to use it in the ongoing grading operations. The environmental ramifications of this option, if any, should be considered by the team.

The demolition debris should be limited to concrete, asphalt, and other non-deleterious material. All deleterious materials should be removed including, but not limited to, paper, garbage, ceramic materials, and wood.

For structural fill applications, the materials should be crushed to 2 inches in maximum dimension or smaller. The crushed materials should be thoroughly blended and mixed with onsite soils prior to placement as compacted fill. The amount of crushed material should not exceed 20 percent. The blended and mixed materials should be tested by this office prior to placement to insure it is suitable for compaction purposes. The blended and mixed materials should be tested by Geotechnologies, Inc. during placement to insure that it has been compacted in a suitable manner.

## FOUNDATION DESIGN

### Mat Foundation

The mat should be founded exclusively in newly placed compacted fill, subsequent to the recommended grading. The bottom of the mat foundation should be a minimum of 18 inches in depth below the lowest adjacent grade at the perimeter of the structure. An allowable bearing pressure of 2,500 pounds per square foot, with locally higher pressures up to 4,000 pounds per square foot may be utilized in the design of the proposed mat foundation.

Given the potential size of a proposed mat foundation, these anticipated bearing pressures are well below the allowable bearing pressures, with factor of safeties exceeding 3. The mat foundation may be designed utilizing a modulus of subgrade reaction (K) of 350 pounds per cubic inch. The value is a unit value for use with a one-foot square footing. The modulus should be reduced in accordance with the following equation when used with larger foundations.

$$K = K_1 ([B+1]/2B)^2$$

Where:

$K_1$ = Unit Subgrade Modulus
K = Reduced Subgrade Modulus
B = Equivalent Foundation Width (feet)

The bearing values indicated above are for the total of dead and frequently applied live loads, and may be doubled for short duration loading, which included the effects of wind or seismic forces. Since the recommended bearing value is a net value, the weight of concrete in the foundations may be taken as 50 pounds per cubic foot and the weight of the soil backfill may be neglected when determining the downward load on the foundations.

It is critical that proper waterproofing be provided below the base of the mat foundation. Waterproofing design and inspection of its installation is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend appropriate products and methods to waterproof below a mat foundation.

## Lateral Design

Resistance to lateral loading may be provided by friction acting at the base of the foundations and by passive earth pressure. An allowable coefficient of friction of 0.4 may be used with the dead load forces between footings and the underlying supporting soils.

Passive earth pressure for the sides of the mat foundation poured against undisturbed or recompacted soil may be computed as an equivalent fluid having a density of 300 pounds per cubic foot with a maximum earth pressure of 3,000 pounds per square foot.

When combining passive and friction for lateral resistance, the passive component should be reduced by one third. A one-third increase in the passive value may be used for wind or seismic loads. A minimum safety factor of 2 has been utilized in determining the allowable passive pressure.

## Mat Foundation Settlement

Settlement of the mat foundation system is expected to occur on initial application of loading. The maximum settlement is not expected to exceed ¾-inch and would occur below the heaviest loaded area of the mat foundation. Differential settlement is not expected to exceed ¼-inch for mat foundation design.

## Miscellaneous Foundations-Conventional

Foundations for small, lightly loaded, outlying structures, such as property line walls and trash enclosures, which will not be tied-in to the proposed building may be supported on conventional foundations bearing in native soils, and/or properly placed compacted fill. These footings may be designed for a bearing value of 2,000 pounds per square foot, and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade and 18 inches into the recommended bearing material. No bearing value increases are recommended.

Since the recommended bearing capacity is a net value, the weight of concrete in the foundations may be taken as 50 pounds per cubic foot and the weight of the soil backfill may be neglected when determining the downward load on the foundations.

## Foundation Reinforcement-Conventional

Due to a moderate expansion potential for the onsite geologic materials, all continuous foundations should be reinforced with a minimum of four #4 steel bars. Two should be placed near the top of the foundations, and two should be placed near the bottom.

## Lateral Design

Resistance to lateral loading may be provided by soil friction, and by the passive resistance of the soils. A coefficient of friction of 0.4 may be used with the dead load forces between footings and the underlying supporting soils.

Passive earth pressure for the side of footings poured against undisturbed alluvial soil may be computed as an equivalent fluid having a density of 300 pounds per cubic foot, with a maximum earth pressure of 3,000 pounds per square foot. When combining passive and friction for lateral resistance, the passive component should be reduced by one third. A one-third increase in the passive value may be used for wind or seismic loads.

### Foundation Settlement

Settlement of lightly loaded structures is expected to be less than ½ inch. Differential settlement of these structures is expected to be less than ¼ inch.

### Foundation Observations

It is critical that all foundation excavations are observed by a representative of this firm to verify penetration into the recommended bearing materials. The observation should be performed prior to the placement of reinforcement. Foundations should be deepened to extend into satisfactory earth materials, if necessary.

Foundation excavations should be cleaned of all loose soils prior to placing steel and concrete. Any required foundation backfill should be mechanically compacted, flooding is not permitted.

## RETAINING WALL DESIGN

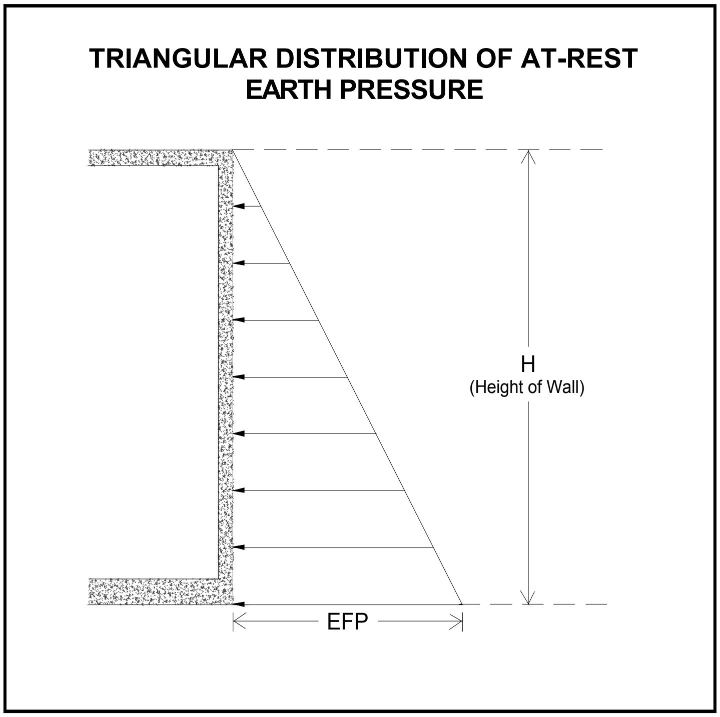
### Cantilever Retaining Walls

Retaining walls supporting a level backslope may be designed utilizing a triangular distribution of pressure. Cantilever retaining walls may be designed for 42 pounds per cubic foot for walls retaining up to 12 feet of earth.

For this equivalent fluid pressure to be valid, walls which are to be restrained at the top should be backfilled prior to the upper connection being made. Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic, or adjacent structures.

## Restrained Drained Retaining Walls

Restrained retaining walls may be designed to resist a triangular pressure distribution of at-rest earth pressure as indicated in the diagram below. The at-rest pressure for design purposes would be 52 pounds per cubic foot. Additional earth pressure should be added for a surcharge condition due to sloping ground, vehicular traffic, or adjacent structures.



In addition to the recommended earth pressure, the upper ten feet of the retaining wall adjacent to streets, driveways or parking areas should be designed to resist a uniform lateral pressure of 100 pounds per square foot, acting as a result of an assumed 300 pounds per square foot surcharge behind the walls due to normal street traffic. If the traffic is kept back at least ten feet from the retaining walls, the traffic surcharge may be neglected.

The lateral earth pressures recommended above for retaining walls assume that a permanent drainage system will be installed so that external water pressure will not be developed against the walls. Also, where necessary, the retaining walls should be designed to accommodate any surcharge pressures that may be imposed by existing buildings on the adjacent property.

## Retaining Wall Drainage

Subdrains may consist of 4-inch diameter perforated pipes, places with perforated facing down. The pipe shall be encased in at least one foot of gravel around the pipe. The gravel shall be wrapped in filter fabric. The gravel may consist of three-quarter inch to one-inch crushed rock. As an alternative, the use of gravel pockets and weepholes is an acceptable drainage method. Weepholes shall be a minimum of 2 inches in diameter, placed at 8 feet on center along the base of the wall. Gravel pockets shall be a minimum of 1 cubic foot in dimension and may consist of three-quarter inch to once inch crushed rock, wrapped in filter fabric.

Certain types of subdrain pipe are not acceptable to the various municipal agencies, it is recommended that prior to purchasing subdrainage pipe, the type and brand is cleared with the proper municipal agencies. Subdrainage pipes should outlet to an acceptable location.

Where retaining walls are to be constructed adjacent to property lines there is usually not enough space for emplacement of a standard pipe and gravel drainage system. Under these circumstances, the use of a flat drainage produce is acceptable.

Some municipalities do not allow the use of flat-drainage products. The use of such a product should be researched with the building official. As an alternative, omission of one-half of a block at the back of the wall on eight-foot centers is an acceptable method of draining the walls. The resulting void should be filled with gravel. A collector is placed within the gravel which directs collected waters through the wall to a sump or standard pipe and gravel system constructed under the slab. This method should be approved by the retaining wall designer prior to implementation.

Where shoring will not allow the installation of a standard subdrainage system outside the wall rock pockets may be utilized. The rock pockets with should drain through the wall. The pockets should be a minimum of 12 inches in length, width, and depth. The pocket should be filled with gravel. The rock pockets should be no more than 8 feet on center.

## Sump Pump Design

The purpose of the recommended retaining wall backdrainage system is to relieve hydrostatic pressure. Groundwater was not encountered during exploration to a depth of 60 feet which corresponds to about 50 feet below the base of the proposed structure. Therefore, the only water which could affect the proposed retaining walls would be irrigation waters and precipitation. Additionally, the proposed site grading is such that all drainage is directed to the street and the structure has been designed with adequate non-erosive drainage devices.

Based on these considerations the retaining wall backdrainage system is not expected to experience an appreciable flow of water, and in particular, no groundwater will affect it. However, for the purposes of design, a flow of 5 gallons per minute may be assumed.

## Dynamic (Seismic) Earth Pressure

Retaining walls exceeding 6 feet in height shall be designed to resist the additional earth pressure caused by seismic ground shaking. A triangular pressure distribution should be utilized for the additional seismic loads, with an equivalent fluid pressure of 23 pounds per cubic foot. When using the load combination equations from the building code, the seismic earth pressure should be combined with the lateral active earth pressure for analyses of restrained basement walls under seismic loading condition.

## Waterproofing

Moisture effecting retaining walls is one of the most common post construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water inside the building. Efflorescence is a process in which a powdery substance is produced on the surface of the concrete by the evaporation of water. The white powder usually consists of soluble salts such as gypsum, calcite, or common salt. Efflorescence is common to retaining walls and does not affect their strength or integrity.

Waterproofing is recommended for retaining walls. Waterproofing design and inspection of its installation is not the responsibility of the geotechnical engineer. A qualified waterproofing consultant should be retained in order to recommend a product or method which would provide protection to below grade walls.

## Retaining Wall Backfill

Any required backfill should be mechanically compacted in layers not more than 8 inches thick, to at least 90 percent of the maximum density in general accordance with the most recent revision of ASTM D 1557 method of compaction. Flooding should not be permitted. Compaction within 5 feet, measured horizontally, behind a retaining structure should be achieved by use of light weight, hand operated compaction equipment.

Proper compaction of the backfill will be necessary to reduce settlement of overlying walks and paving. Some settlement of required backfill should be anticipated, and any utilities supported therein should be designed to accept differential settlement, particularly at the points of entry to the structure.

## TEMPORARY EXCAVATIONS

Excavations on the order of 12 feet in vertical height are anticipated for the proposed basement. Assuming the thickness of the concrete slab-on-grade and the foundations, excavations up to 15 feet have been addressed herein. The excavations are expected to expose fill and medium dense native soils, which are suitable for vertical excavation up to 3 feet where not surcharged by adjacent traffic of structures. Excavations which will be surcharged by adjacent traffic of structures should be shored.

Where sufficient space is available, temporary unsurcharged embankments could be cut at a uniform 1:1 (h:v) slope gradient. A uniform sloped excavation does not have a vertical component. Sloped excavations with vertical cuts at the toe of the slope are not recommended.

Where sloped embankments are utilized, the tops of the slopes should be barricaded to prevent vehicles and storage loads near the top of slope within a horizontal distance equal to the depth of the excavation. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Water should not be allowed to pond on top of the excavation nor to flow towards it.

### Excavation Observations

It is critical that the soils exposed in the cut slopes are observed by a representative of this office during excavation so that modifications of the slopes can be made if variations in the earth material conditions occur. Many building officials require that temporary excavations should be made during the continuous observations of the geotechnical engineer. All excavations should be stabilized within 30 days of initial excavation.

## SHORING DESIGN

The following information on the design and installation of the shoring is as complete as possible at this time. It is suggested that Geotechnologies, Inc. review the final shoring plans and specifications prior to bidding or negotiating with a shoring contractor.

### Soldier Piles – Drilled and Poured

One method of shoring would consist of steel soldier piles, placed in drilled holes, and backfilled with concrete. The soldier piles may be designed as cantilevers or laterally braced utilizing drilled tied-back anchors or raker braces.

Drilled cast-in-place soldier piles should be placed no closer than two diameters on center. The minimum diameter of the piles is 18 inches. Structural concrete should be used for the soldier piles below the excavation; lean-mix concrete may be employed above that level. As an alternative, lean-mix concrete may be used throughout the pile where the reinforcing consists of a wideflange section. The slurry must be of sufficient strength to impart the lateral bearing pressure developed by the wideflange section to the geologic materials. For design purposes, an allowable passive value for the geologic materials below the bottom plane of excavation, may be assumed to be 600 pounds per square foot per foot. To develop the full lateral value, provisions should be implemented to assure firm contact between the soldier piles and the undisturbed geologic materials.

Casing may be required should caving be experienced in the granular geologic materials. If casing is used, extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than 5 feet.

The frictional resistance between the soldier piles and retained geologic material may be used to resist the vertical component of the anchor load. The coefficient of friction may be taken as 0.4 based on uniform contact between the steel beam and lean-mix concrete and retained earth. The portion of soldier piles below the plane of excavation may also be employed to resist the downward loads. The downward capacity may be determined using a frictional resistance of 500 pounds per square foot. The minimum depth of embedment for shoring piles is 5 feet below the bottom of the footing excavation or 7 feet below the bottom of excavated plane whichever is deeper.

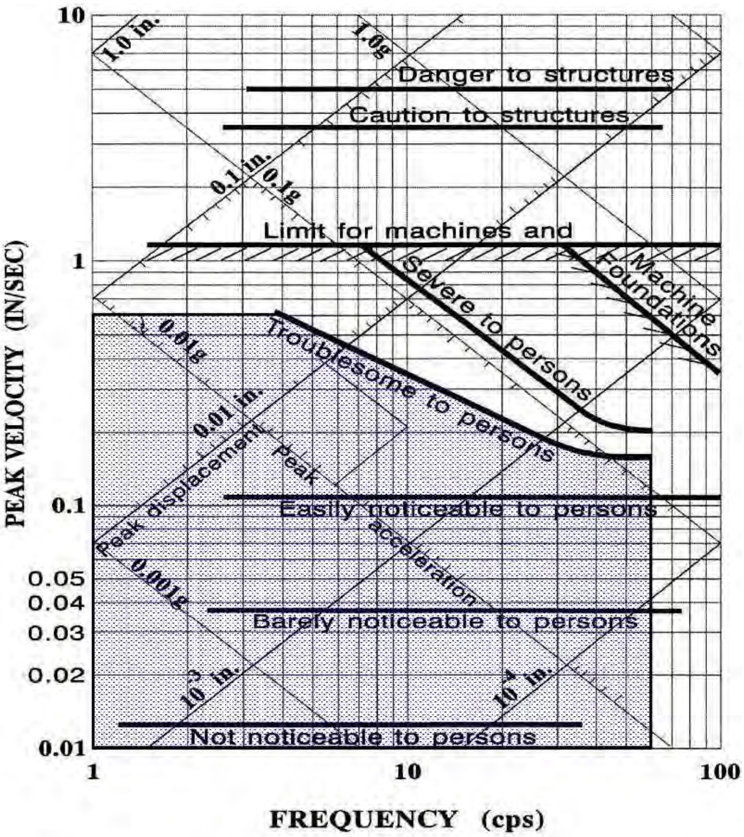
## **Soldier Piles – Vibrated**

The vibration method of shoring pile installation is acceptable to this firm from a geotechnical standpoint provided the recommendations presented herein are implemented. When using the vibration method of installing the soldier beams, the minimum embedment depth shall be 10 feet below the lowest excavated plane.

If predrilling is required, it is recommended that the diameter of the predrilled holes should not exceed 75 percent of the depth of the web of the I-beam. The depth of the predrilled holes should not exceed the planned excavation depth. In addition, when predrilling, the auger shall be back spun out of the pilot holes, leaving the soils in place. All shoring (predrilling, installation of shoring piles, tieback installation and testing, and lagging) shall be performed under the continuous inspections by a deputy grading inspector of this firm.

The allowable level of vibration that results from the installation of the piles should not exceed a threshold where occupants of the nearby structures are disturbed, despite higher vibration tolerances that a building may endure without deformation. There is a relationship between particle velocity and vibration frequency that will occur due to the installation. A range of tolerable particle peak velocity and frequency of vibration is attached an “Allowable Amplitude of Vertical Vibrations”. The shaded area on the graph is considered within acceptable limits to avoid damage to nearby structures. The acceptable limits should be measured at the neighboring structures.

The vibrations should be monitored with a seismograph during pile installation to detect the magnitude of vibration and oscillation experienced by the adjacent structure. The results should be recorded and provided to the owner. If, during installation, the vibrations exceed the range shown on the graph below, the shoring contractor should modify the installation procedure to reduce the values to the acceptable range.



Given Velocity = 0.2 inch/sec.
Frequency = 10 cps
Then from Graph, Displacement = 0.003 inches
Acceleration = 0.03g
Motion is easy noticeable or troublesome to persons

**NOTE: Shaded area considered below threshold for structure damage**

REFERENCE: Department of Defense, 1997, Soil Dynamics and Special Design Aspects, MIL-HDBK-1007/3

## Lagging

Soldier piles and anchors should be designed for the full anticipated pressures. Due to arching in the geologic materials, the pressure on the lagging will be less. It is recommended that the lagging should be designed for the full design pressure but may be limited to a maximum of 400 pounds per square foot. It is recommended that a representative of this firm observe the installation of lagging to insure uniform support of the excavated embankment.

## Tied-Back Anchors

Tied-back anchors may be used to resist lateral loads. Friction anchors are recommended. For design purposes, it may be assumed that the active wedge adjacent to the shoring is defined by a plane drawn 35 degrees with the vertical through the bottom plane of the excavation. Friction anchors should extend a minimum of 20 feet beyond the potentially active wedge.

Drilled friction anchors may be designed for a skin friction of 650 pounds per square foot. Only the frictional resistance developed beyond the active wedge would be effective in resisting lateral loads. This skin friction is based on 15-foot high shoring, a tied back anchor elevation 6 feet below grade and a minimum twenty-foot embedment beyond the potentially active wedge yielding an overburden of 12½ feet below ground surface. Where belled anchors are utilized, the capacity of belled anchors may be designed by applying the skin friction over the surface area of the bonded anchor shaft. The diameter of the bell may be utilized as the diameter of the bonded anchor shaft when determining the surface area. This implies that in order for the belled anchor to fail, the entire parallel soil column must also fail.

Depending on the techniques utilized, and the experience of the contractor performing the installation, it is anticipated that a skin friction of 2,500 pounds per square foot could be utilized for post-grouted anchors. Only the frictional resistance developed beyond the active wedge would be effective in resisting lateral loads.

Anchors should be placed at least 6 feet on center to be considered isolated. It is recommended that at least 3 of the initial anchors have their capacities tested to 200 percent of their design capacities for a 24-hour period to verify their design capacity.

The total deflection during this test should not exceed 12 inches. The anchor deflection should not exceed 0.75 inches during the 24-hour period, measured after the 200 percent load has been applied. All anchors should be tested to at least 150 percent of design load. The total deflection during this test should not exceed 12 inches.

The rate of creep under the 150 percent test load should not exceed 0.1 inch over a 15-minute period in order for the anchor to be approved for the design loading. After a satisfactory test, each anchor should be locked-off at the design load. This should be verified by rechecking the load in the anchor. The load should be within 10 percent of the design load. Where satisfactory tests are not attained, the anchor diameter and/or length should be increased, or additional anchors installed until satisfactory test results are obtained. The installation and testing of the anchors should be observed by the geotechnical engineer. Minor caving during drilling of the anchors should be anticipated.

## **Anchor Installation**

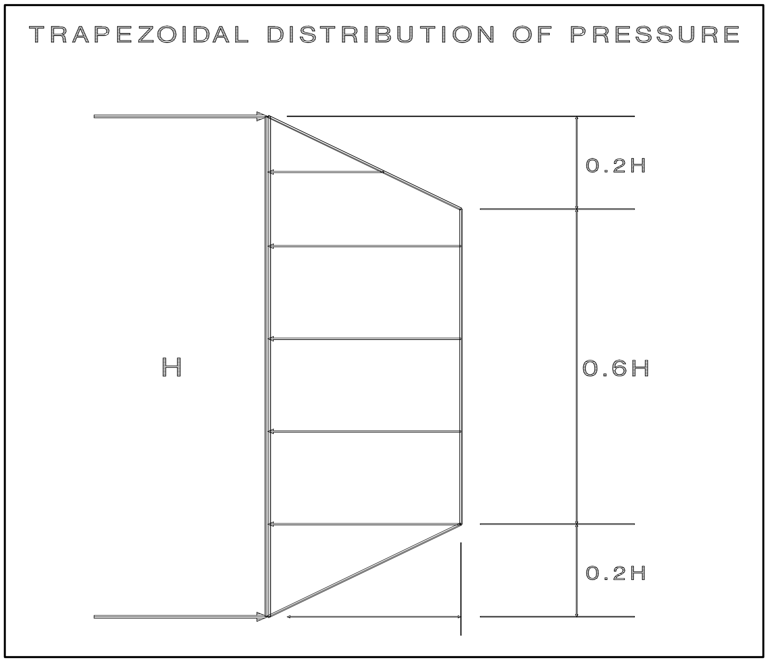
Tied-back anchors may be installed between 20 and 40 degrees below the horizontal. Caving of the anchor shafts, particularly within sand deposits, should be anticipated and the following provisions should be implemented in order to minimize such caving. The anchor shafts should be filled with concrete by pumping from the tip out, and the concrete should extend from the tip of the anchor to the active wedge. In order to minimize the chances of caving, it is recommended that the portion of the anchor shaft within the active wedge be backfilled with sand before testing the anchor. This portion of the shaft should be filled tightly and flush with the face of the excavation. The sand backfill should be placed by pumping; the sand may contain a small amount of cement to facilitate pumping.

## Lateral Pressures

Cantilevered shoring supporting a level backslope may be designed utilizing a triangular distribution of pressure as indicated in the following table:

| HEIGHT OF SHORING "H" (feet) | EQUIVALENT FLUID PRESSURE (pounds per cubic foot) |
|---|---|
| Up to 15 | 36 |

A trapezoidal distribution of lateral earth pressure would be appropriate where shoring is to be restrained at the top by bracing or tie backs, with the trapezoidal distribution as shown in the diagram below.



Restrained shoring supporting a level backslope may be designed utilizing a trapezoidal distribution of pressure as indicated in the following table:

| HEIGHT OF SHORING "H" (feet) | DESIGN SHORING FOR (Where H is the height of the wall) |
|---|---|
| Up to 15 | 23H |

Where a combination of sloped embankment and shoring is utilized, the pressure will be greater and must be determined for each combination. Additional active pressure should be applied where the shoring will be surcharged by adjacent traffic or structures. Where a combination of sloped embankment and shoring is utilized, the pressure will be greater and must be determined for each combination.

## Deflection

It is difficult to accurately predict the amount of deflection of a shored embankment. It should be realized that some deflection will occur. It is estimated that the deflection could be on the order of one inch at the top of the shored embankment. If greater deflection occurs during construction, additional bracing may be necessary to minimize settlement of adjacent buildings and utilities in adjacent street and alleys. If desired to reduce the deflection, a greater active pressure could be used in the shoring design. Where internal bracing is used, the rakers should be tightly wedged to minimize deflection. The proper installation of the raker braces and the wedging will be critical to the performance of the shoring.

## Monitoring

Because of the depth of the excavation, some means of monitoring the performance of the shoring system is suggested. The monitoring should consist of periodic surveying of the lateral and vertical locations of the tops of all soldier piles and the lateral movement along the entire lengths of selected soldier piles. Also, some means of periodically checking the load on selected anchors will be necessary, where applicable.

## Pre-Construction Survey

Prior to excavation of the proposed basement levels, it is recommended the surrounding structures and improvements be surveyed to provide a documented record of their condition. It is recommended this include video and/or photographic documentation as well. Such a survey would aid in the resolution of any disputes that may arise concerning damage to adjacent facilities caused by the proposed construction.

## Shoring Observations

It is critical that the installation of shoring is observed by a representative of Geotechnologies, Inc. Many building officials require that shoring installation should be performed during continuous observation of a representative of the geotechnical engineer. The observations insure that the recommendations of the geotechnical report are implemented and so that modifications of the recommendations can be made if variations in the geologic material or groundwater conditions warrant. The observations will allow for a report to be prepared on the installation of shoring for the use of the local building official, where necessary.

## Raker Brace Foundations

An allowable bearing pressure of 4,000 pounds per square foot may be used for the design a raker foundations. This bearing pressure is based on a raker foundation a minimum of 4 feet in width and length as well as 4 feet in depth. The base of the raker foundations should be horizontal. Care should be employed in the positioning of raker foundations so that they do not interfere with the foundations for the proposed structure.

## SLABS ON GRADE

### Concrete Slabs-on-Grade

Concrete floor slabs for outlying structure should be a minimum of 4 inches of thickness. Slabs-on-grade should be cast over properly controlled fill materials. Any geologic materials loosened or over-excavated should be wasted from the site or properly compacted to 90 percent of the maximum dry density.

Outdoor concrete flatwork should be a minimum of 4 inches in thickness. Outdoor concrete flatwork should be cast over undisturbed native alluvial soils or properly controlled fill materials. Any geologic materials loosened or over-excavated should be wasted from the site or properly compacted to 90 percent of the maximum dry density.

### Design of Slabs That Receive Moisture-Sensitive Floor Coverings

Geotechnologies, Inc. does not practice in the field of moisture vapor transmission evaluation and mitigation. Therefore, where necessary, it is recommended that a qualified consultant should be engaged to evaluate the general and specific moisture vapor transmission paths and any impact on the proposed construction. The qualified consultant should provide recommendations for mitigation of potential adverse impacts of moisture vapor on various components of the structure.

Where any dampness would be objectionable or where the slab will be cast below the historic high groundwater level, it is recommended that floor slabs should be waterproofed. A qualified waterproofing consultant should be engaged in order to recommend a product and/or method which would provide protection from unwanted moisture.

Based on ACI 302.2R-30, Chapter 7, for projects which do not have vapor sensitive coverings or humidity-controlled areas, a vapor retarder/barrier is not necessary. Where a vapor retarder/barrier is considered necessary, the design of the slab and the installation of the vapor retarde/barrier should comply with the most recent revisions of ASTM E 1643 and ASTM E 1745. The vapor retarder/barrier should comply with ASTM E 1745 Class A requirements. The necessity of a vapor retarder/barrier is not a geotechnical issue and should be confirmed by qualified members of the design team.

Based on ACI 302.2R-30, Chapter 7, for projects with vapor sensitive coverings, a vapor retarder/ barrier should be provided. Figure 7.1 shows that the slab should be poured on the vapor retarder/barrier. The ACI guide notes in 5.2.3.2 that the decision to locate the vapor retarder/barrier in direct contact with the slab's underside had long been debated. Experience has shown, however, that the greatest level of protection for floor coverings, coating, or building environments is provided when the vapor retarder/barrier is placed in direct contact with the slab. The necessity of a vapor retarder as well as the use of dry granular material, as discussed above is not a geotechnical issue and should be confirmed by qualified members of the design team.

Where a vapor retarder/barrier is used, it should be placed on a level and compact subgrade. Precautions should be taken to protect the vapor retarder/barrier from damage during installation of reinforcing, utilities, and concrete. The use of stakes driven thought the vapor retarder/barrier should be avoided. Repair any damaged areas of the vapor retarder/barrier prior to concrete placement.

Groundwater was not encountered on the subject site during exploration to a depth of 60 feet below existing ground surface. Proposed concrete mat foundation does not need to be supported on a layer of compacted aggregate to provide a capillary break.

## Concrete Crack Control

The recommendations presented in this report are intended to reduce the potential for cracking of concrete slabs-on-grade due to settlement. However even where these recommendations have been implemented, foundations, stucco walls and concrete slabs-on-grade may display some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete cracking may be reduced and/or controlled by limiting the slump of the concrete used, proper concrete placement and curing, and by placement of crack control joints at reasonable intervals, in particular, where re-entrant slab corners occur.

For standard crack control maximum expansion joint spacing 15 feet should not be exceeded. Lesser spacings would provide greater crack control. Joints at curves and angle points are recommended. The crack control joints should be installed as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. Construction joints should be designed by a structural engineer.

Complete removal of the existing fill soils beneath outdoor flatwork (such as walkways or patio areas) and concrete pavement, is not required. However, due to the rigid nature of concrete, some cracking, a shorter design life and increased maintenance costs should be anticipated. In order to provide uniform support beneath the flatwork it is recommended that a minimum of 12 inches of the exposed subgrade beneath the flatwork be scarified and recompacted to at least 90 percent relative compaction.

### Slab Reinforcing

Outdoor flatwork should be reinforced with a minimum of #3 steel bars on 24-inch centers each way.

## SOIL CORROSION POTENTIAL

The results of soil corrosion potential testing performed by the Twining, Project Number 180870.1, dated November 15, 2018 state that based on Los Angeles County criteria, a corrosive soil is defined when resistivity is less than 1,000 ohm-centimeters, or chloride concentrations are greater than 500ppm, or sulfate concentrations are greater than 2,000ppm, or pH is less than 5.5. Based on the testing provided by Twining, the soil chloride concentrations were found to be 14ppm, the sulfate concentrations were reported to be 31ppm, and the pH was found to be 6.8.

In summary, the soils are classified as severely corrosive to ferrous metals. Detailed results, discussion of results and recommended mitigating measures are provided within the corrosion report presented herein.

Geotechnologies, Inc. does not practice in the field of corrosion engineering and mitigation. Any questions regarding the results of the soil corrosion report should addressed to the corrosion engineer.

## PAVEMENTS

Prior to placing paving, the existing grade should be scarified to a depth of 12 inches, moistened as required to obtain optimum moisture content, and recompacted to 90 percent of the maximum density as determined by the most recent revision of ASTM D 1557. The client should be aware that removal of all existing fill in the area of new paving is not required, however, pavement constructed in this manner will most likely have a shorter design life and increased maintenance costs.

Due to a wide variation which may occur during the grading process, it is recommended that R-value test be performed near the completion of grading in order to ascertain the subgrade conditions prior to paving. The recommended paving sections shall be considered preliminary and are subject to revision. For preliminary design purposes, an R-value of 30 was assumed. A preliminary paving section is provided in the following table for traffic indexes of 4, 6, and 8:

| TABLE I – PAVING DESIGN SECTIONS | | | | |
|---|---|---|---|---|
| **Service Level** | **Asphalt Pavement** | | **Concrete Pavement** | |
| | **Asphalt Pavement Thickness (Inches)** | **Asphalt Pavement Base Course (Inches)** | **Concrete Pavement Thickness (Inches)** | **Concrete Pavement Base Course (Inches)** |
| Passenger Cars (TI=4) | 3 | 5 | 6 | 4 |
| Moderate Truck (TI=6) | 4 | 8 | 6 | 4 |
| Heavy Trucks (TI=8) | 5 | 11 | 7.5 | 4 |

The paving sections have been developed in general accordance with the California Department of Transportation, Highway Design Manual. Aggregate base should be compacted to a minimum of 95 percent of the most recent revision of ASTM D 1557 laboratory maximum dry density. Base materials should conform with Section 200-2.2 or 200-2.4 of the “Standard Specifications for Public Works Construction”, (Green Book), latest edition.

Concrete paving may be used on the project. A subgrade modulus of 100 pounds per cubic inch may be assumed for design of concrete paving. For standard control of concrete cracking, a maximum crack control joint spacing of 12 feet should not be exceeded. Lesser spacings would provide greater crack control. Joints at curves and angle points are recommended. The crack control joints should be installed as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. Concrete paving should be reinforced with a minimum of #4 steel bars on 16-inch centers each way. Construction joints should be designed by a structural engineer.

The occurrence of concrete cracking may be reduced and/or controlled by limiting the slump of the concrete used, proper concrete placement and curing, and by placement of crack control joints at reasonable intervals, in particular, where re-entrant slab corners occur.

The performance of pavement is highly dependent upon providing surface drainage away from the edges. Ponding of water on or adjacent to pavement can result in saturation of the subgrade materials and subsequent pavement distress. If planter islands are planned, the perimeter curb should extend a minimum of 12 inches below the bottom of the aggregate base.

The management of pavement wear primarily is focused on the distress caused by vertical loads. The reduction of vertical loading from large vehicles is assisted by increasing the number of axles. Multi-axle groups reduce the peak vertical loading and when closely spaced, reduce the magnitude of the strain cycles to which the pavement is subjected. However, where tight low-speed turns are executed, non-steering axle groups lead to transverse shear forces (scuffing) at the pavement-tire interface.

With asphaltic concrete pavements, tensile shear stresses from tires can cause surface cracking and raveling, thus, the increase of non-steering axle groups results in increased pavement wear in the vicinity of intersections and turnarounds where tight low speed turns are executed.

When designing intersections and turnarounds, the turn radius should be as large as possible. This will lead to reduced “scuffing” forces. Where tight radius turns are unavoidable, the pavement surface design should take into account the high level of “scuffing” forces that will occur and thickened pavement and subgrade and base course keyways should be considered to assist in the reduction of lateral deflection.

## SITE DRAINAGE

Proper surface drainage is critical to the future performance of the project. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Proper site drainage should be maintained at all times.

All site drainage, with the exception of any required to disposed of onsite by stormwater regulations, should be collected and transferred to an acceptable location in non-erosive drainage devices. The proposed structure should be provided with roof drainage. Discharge from downspouts, roof drains and scuppers should not be permitted on unprotected soils within five feet of the building perimeter. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Drainage should not be allowed to flow uncontrolled over any descending slope. Planters which are located within a distance equal to the depth of a retaining wall should be sealed to prevent moisture adversely affecting the wall. Planters which are located within five feet of a foundation should be sealed to prevent moisture affecting the earth materials supporting the foundation.

## DESIGN REVIEW

Engineering of the proposed project should not begin until approval of the geotechnical report by the Building Official is obtained in writing. Significant changes in the geotechnical recommendations may result during the building department review process.

It is recommended that the geotechnical aspects of the project be reviewed by this firm during the design process. This review provides assistance to the design team by providing specific recommendations for particular cases, as well as review of the proposed construction to evaluate whether the intent of the recommendations presented herein are satisfied.

## CONSTRUCTION MONITORING

Geotechnical observations and testing during construction is considered to be a continuation of the geotechnical investigation. Therefore, it is critical that the geotechnical aspects of the project be reviewed by this firm during the construction process. Compliance with the design concepts, specifications or recommendations during construction requires review by this firm during the course of construction. All foundations should be observed by a representative of this firm prior to placing concrete or steel. Any fill which is placed should be observed, tested, and verified if used for engineered purposes. Please advise this office at least twenty-four hours prior to any required site visit.

If conditions encountered during construction appear to differ from those disclosed herein, notify this office immediately so the need for modifications may be considered in a timely manner.

It is the responsibility of the contractor to ensure that all excavations and trenches are properly sloped or shored. All temporary excavations should be cut and maintained in accordance with applicable OSHA rules and regulations.

## EXCAVATION CHARACTERISTICS

The exploration performed for this investigation is limited to the geotechnical excavations described. Direct exploration of the entire site would not be economically feasible. The owner, design team and contractor must understand that differing excavation and drilling conditions may be encountered based on boulders, gravel, oversize materials, groundwater, and many other conditions. Fill materials, especially when they were placed without benefit of modern grading codes, regularly contain materials which could impede efficient grading and drilling. Southern California sedimentary bedrock is known to contain variable layers which reflect differences in depositional environment. Such layers may include abundant gravel, cobbles, and boulders. Similarly, bedrock can contain concretions. Concretions are typically lenticular and follow the bedding. They are formed by mineral deposits. Concretions can be very hard. Excavation and drilling in these areas may require full size equipment and coring capability. The contractor should be familiar with the site and the geologic materials in the vicinity.

## CLOSURE AND LIMITATIONS

The purpose of this report is to aid in the design and completion of the described project. Implementation of the advice presented in this report is intended to reduce certain risks associated with construction projects. The professional opinions and geotechnical advice contained in this report are sought because of special skill in engineering and geology. Geotechnologies, Inc. has a duty to exercise the ordinary skill and competence of members of the engineering profession. Those who hire Geotechnologies, Inc. are not justified in expecting infallibility, but can expect reasonable professional care and competence.

The recommendations of this report pertain only to the site investigated and are based upon the assumption that the geologic conditions do not deviate from those disclosed in the investigation. If any variations are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geotechnologies, Inc. should be notified so that supplemental recommendations can be prepared.

This report is issued with the understanding that it is the responsibility of the owner, or the owner's representatives, to insure that the information and recommendations contained herein are brought to the attention of the project architect and engineer and are incorporated into the plans. The owner is also responsible to see that the contractor and subcontractors carry out the geotechnical recommendations during construction.

The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside control of this firm. Therefore, this report is subject to review and should not be relied upon after a period of three years.

Geotechnical observations and testing during construction is considered to be a continuation of the geotechnical investigation. It is, therefore, most prudent to employ the consultant performing the initial investigative work to provide observation and testing services during construction. This practice enables the project to flow smoothly from the planning stages through to completion.

Should another geotechnical firm be selected to provide the testing and observation services during construction, that firm should prepare a letter indicating their assumption of the responsibilities of geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for review. The letter should acknowledge the concurrence of the new geotechnical engineer with the recommendations presented in this report.

## EXCLUSIONS

Geotechnologies, Inc. does not practice in the fields of methane gas, radon gas, environmental engineering, waterproofing, dewatering organic substances or the presence of corrosive soils or wetlands which could affect the proposed development including mold and toxic mold. Nothing in this report is intended to address these issues and/or their potential effect on the proposed development. A competent professional consultant should be retained in order to address environmental issues, waterproofing, organic substances, and wetlands which might affect the proposed development.

## GEOTECHNICAL TESTING

### Classification and Sampling

The soil is continuously logged by a representative of this firm and classified by visual examination in accordance with the Unified Soil Classification System. The field classification is verified in the laboratory, also in accordance with the Unified Soil Classification System. Laboratory classification may include visual examination, Atterberg Limit Tests, and grain size distribution. The final classification is shown on the boring log.

Samples of the earth materials encountered in the borings were collected and transported to the laboratory. Undisturbed samples of soil are obtained at frequent intervals. Unless noted on the boring logs as an SPT sample, samples acquired while utilizing a hollow-stem auger drill rig are obtained by driving a thin-walled, California Modified Sampler with successive 30-inch drops of a 140-pound automatic trip hammer. The soil is retained in brass rings of 2.50 inches inside diameter and 1.00 inches in height. The central portion of the samples are stored in close fitting, waterproof containers for transportation to the laboratory. Samples noted on the boring logs as SPT samples are obtained in accordance with ASTM D 1586 utilizing an automatic hammer. Samples are retained for 30 days after the date of the geotechnical report.

## Moisture and Density Relationships

The field moisture content and dry unit weight are determined for each of the undisturbed soil samples, and the moisture content is determined for SPT samples by ASTM D 4959 or ASTM D 4643. This information is useful in providing a gross picture of the soil consistency between exploration locations and any local variations. The dry unit weight is determined in pounds per cubic foot and shown on the “Boring Log”, A-Plate. The field moisture content is determined as a percentage of the dry unit weight.

## Direct Shear Testing

Shear tests are performed by ASTM D 3080 with a strain controlled, direct shear machine manufactured by GeoMatic, Inc. The rate of deformation is approximately 0.025 inches per minute. Each sample is sheared under varying confining pressures in order to determine the Mohr-Coulomb shear strength parameters of the cohesion intercept and the angle of internal friction. Samples are generally tested in an artificially saturated condition. Depending upon the sample location and future site conditions, samples may be tested at field moisture content. The results are plotted on the "Shear Test Diagram," B-Plates.

The most recent revision of ASTM 3080 limits the particle size to 10 percent of the diameter of the direct shear test specimen. The sheared sample is inspected by the laboratory technician running the test. The inspection is performed by splitting the sample along the sheared plane and observing the soils exposed on both sides. Where oversize particles are observed in the shear plane, the results are discarded, and the test run again with a fresh sample.

## Consolidation Testing

Settlement predictions of the soil's behavior under load are made on the basis of the consolidation tests using the most recent revision of ASTM D 2435. The consolidation apparatus is designed to receive a single one-inch high ring. Loads are applied in several increments in a geometric progression, and the resulting deformations are recorded at selected time intervals. Porous stones are placed in contact with the top and bottom of each specimen to permit addition and release of pore fluid. Samples are generally tested at increased moisture content to determine the effects of water on the bearing soil. The normal pressure at which the water is added is noted on the drawing. Results are plotted on the "Consolidation Test," C-Plates.

## Expansion Index Testing

The expansion tests performed on the remolded samples are in accordance with the Expansion Index testing procedures, as described in the most recent revision of ASTM D4829. The soil sample is compacted into a metal ring at a saturation degree of 50 percent. The ring sample is then placed in a consolidometer, under a vertical confining pressure of 1 lbf/square inch and inundated with distilled water. the deformation of the specimen is recorded for a period of 24 hours or until the rate of deformation becomes less than 0.0002 inches/hour, whichever occurs first. The expansion index, EI, is determined by dividing the difference between final and initial height of the ring sample by the initial height and multiplied by 1,000. Results are presented in Plate D of this report.

## Laboratory Compaction Characteristics

The maximum dry unit weight and optimum moisture content of a soil are determined by use of the most recent revision of ASTM D 1557. A soil at a selected moisture content is placed in five layers into a mold of given dimensions, with each layer compacted by 25 blows of a 10 pound hammer dropped from a distance of 18 inches subjecting the soil to a total compactive effort of about 56,000 pounds per cubic foot. The resulting dry unit weight is determined. The procedure is repeated for a sufficient number of moisture contents to establish a relationship between the dry unit weight and the water content of the soil. The data when plotted represent a curvilinear relationship known as the compaction curve. The values of optimum moisture content and modified maximum dry unit weight are determined from the compaction curve. Results are presented in Plate D of this report.

## Grain Size Distribution

These tests cover the quantitative determination of the distribution of particle sizes in soils. Sieve analysis is used to determine the grain size distribution of the soil larger than the Number 200 sieve. The most recent revision of ASTM D 422 is used to determine particle sized smaller than the Number 200 sieve. A hydrometer is used to determine the distribution of particle sizes by a sedimentation process. The grain size distributions are plotted on the E-Plates presented in the Appendix of this report.

## Atterberg Limits

ASTM D 4318 is used to determine the liquid limits, plastic limits, and plasticity index of the soil. These test methods are used to characterize the fine grained fractions of the soil. Results from Atterberg Limits tests are presented in F-Plates of this report.

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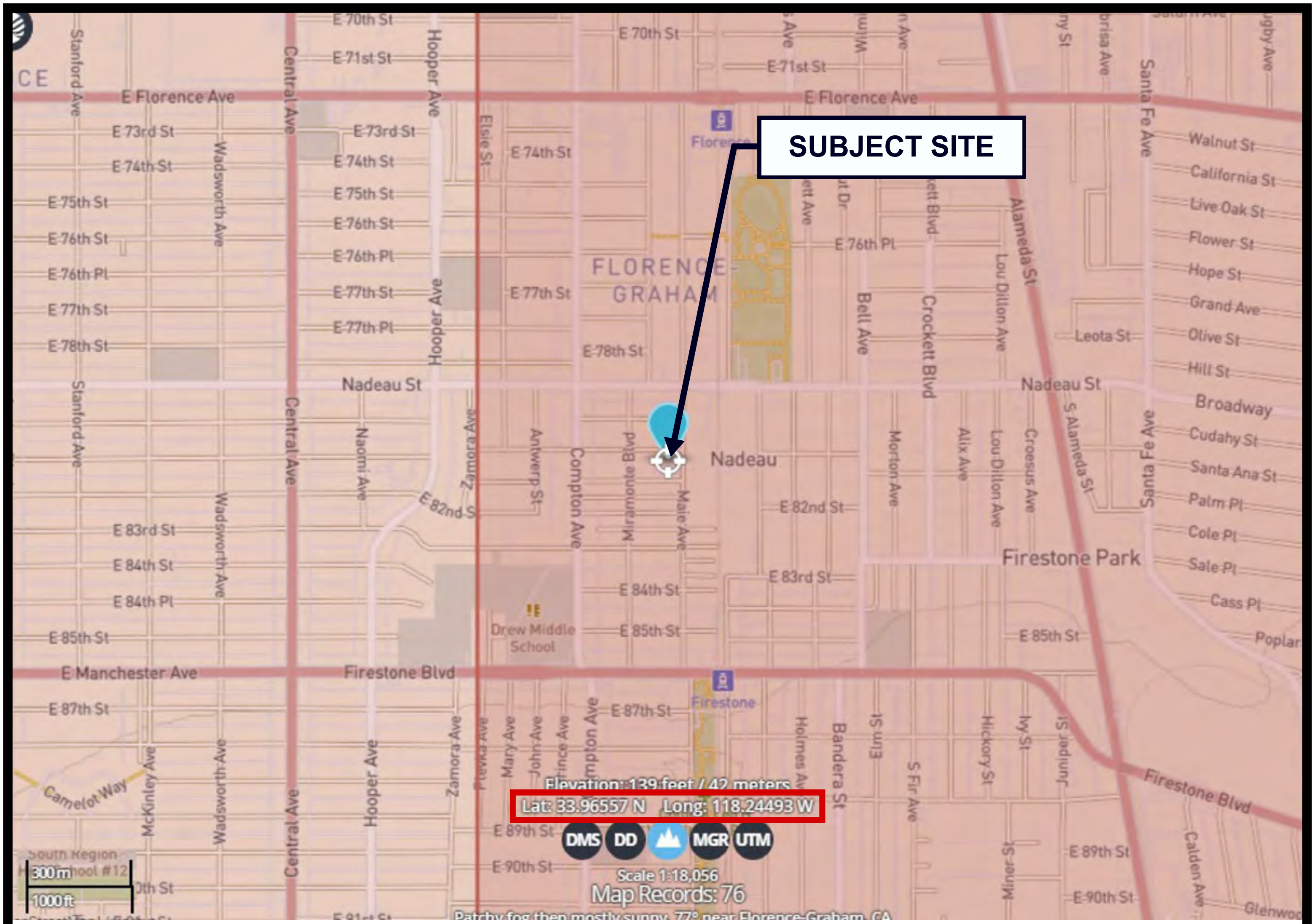


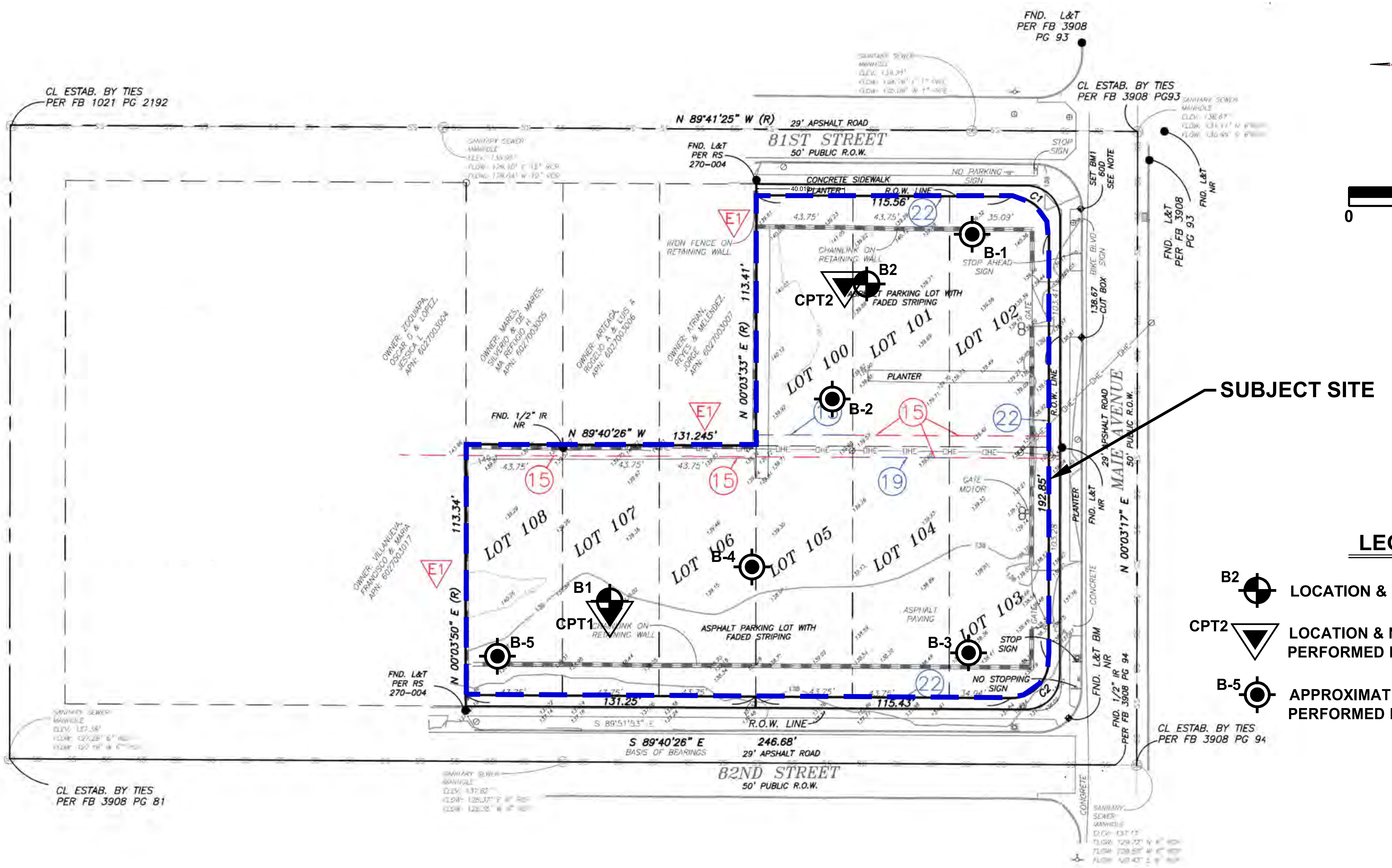
**REFERENCE:** U.S.G.S. TOPOGRAPHIC MAPS, 7.5 MINUTE SERIES,
SOUTH GATE, CA QUADRANGLE

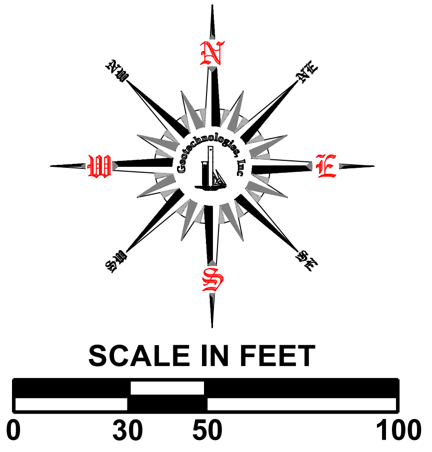
# VICINITY MAP

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*

**KLARE HOLDINGS & ITS SUBSIDIARY**
1628 E. 81ST ST., LOS ANGELES

**FILE NO. 22006**





## LEGEND

| | |
|---|---|
| B2 ⊕ | LOCATION & NUMBER OF BORING |
| CPT2 ▼ | LOCATION & NUMBER OF CONE PENETROMETER TEST PERFORMED BY GEOTECHNOLOGIES, INC. |
| B-5 ⊕ | APPROXIMATE LOCATION & NUMBER OF BORING PERFORMED BY TWINING |

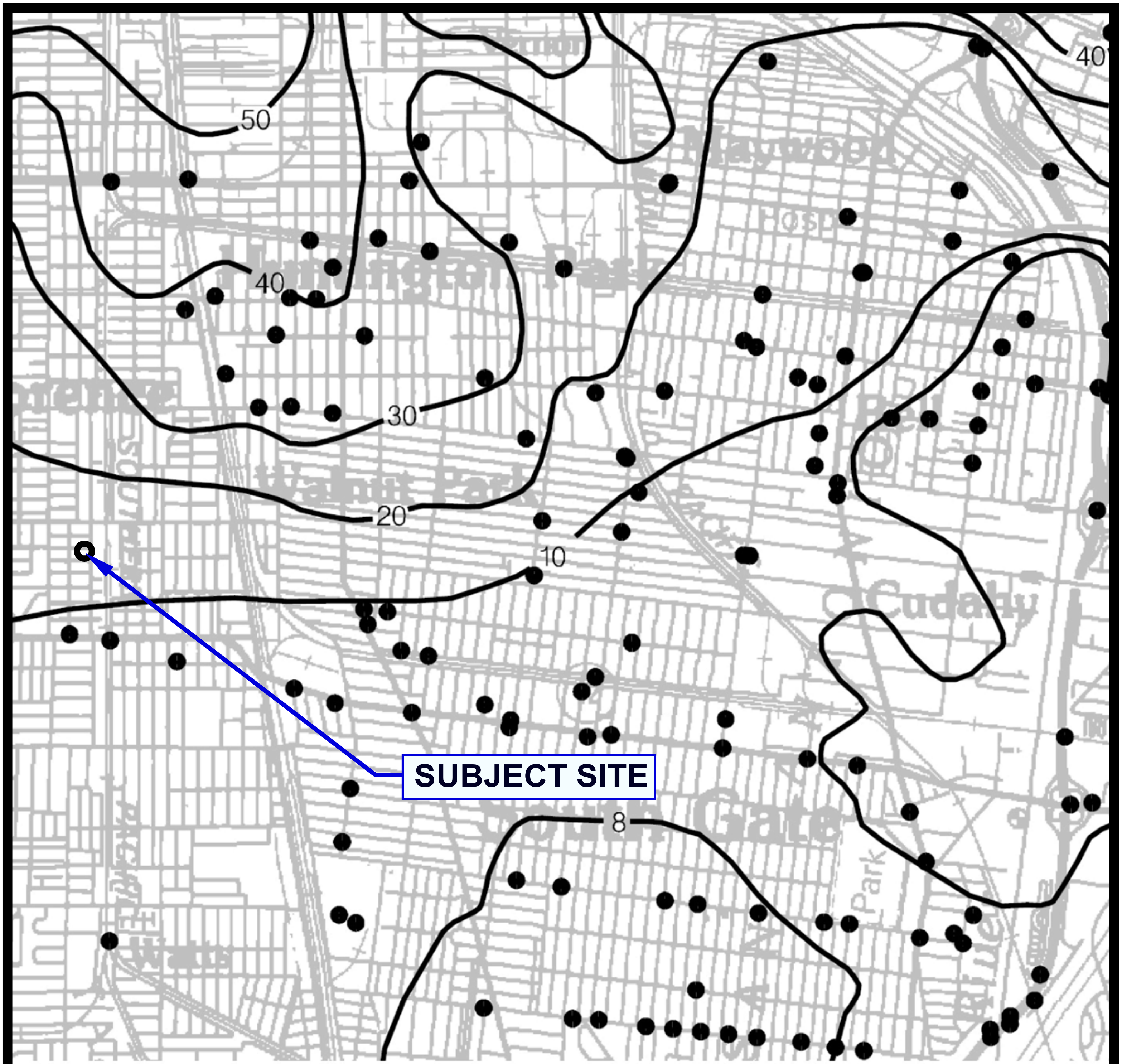
REFERENCE: ALTA/NSPS LAND TITLE SURVEY PROVIDED BY PARTNER ENGINEERING AND SCIENCE, INC.
DATED DECEMBER 5, 2018

# PLOT PLAN

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*

**KLARE HOLDINGS & ITS SUBSIDIARY**
1628 E. 81ST ST., LOS ANGELES

FILE No. 22006
DRAWN BY: TC
DATE: July 2020



ONE MILE

SCALE

20 Depth to groundwater in feet

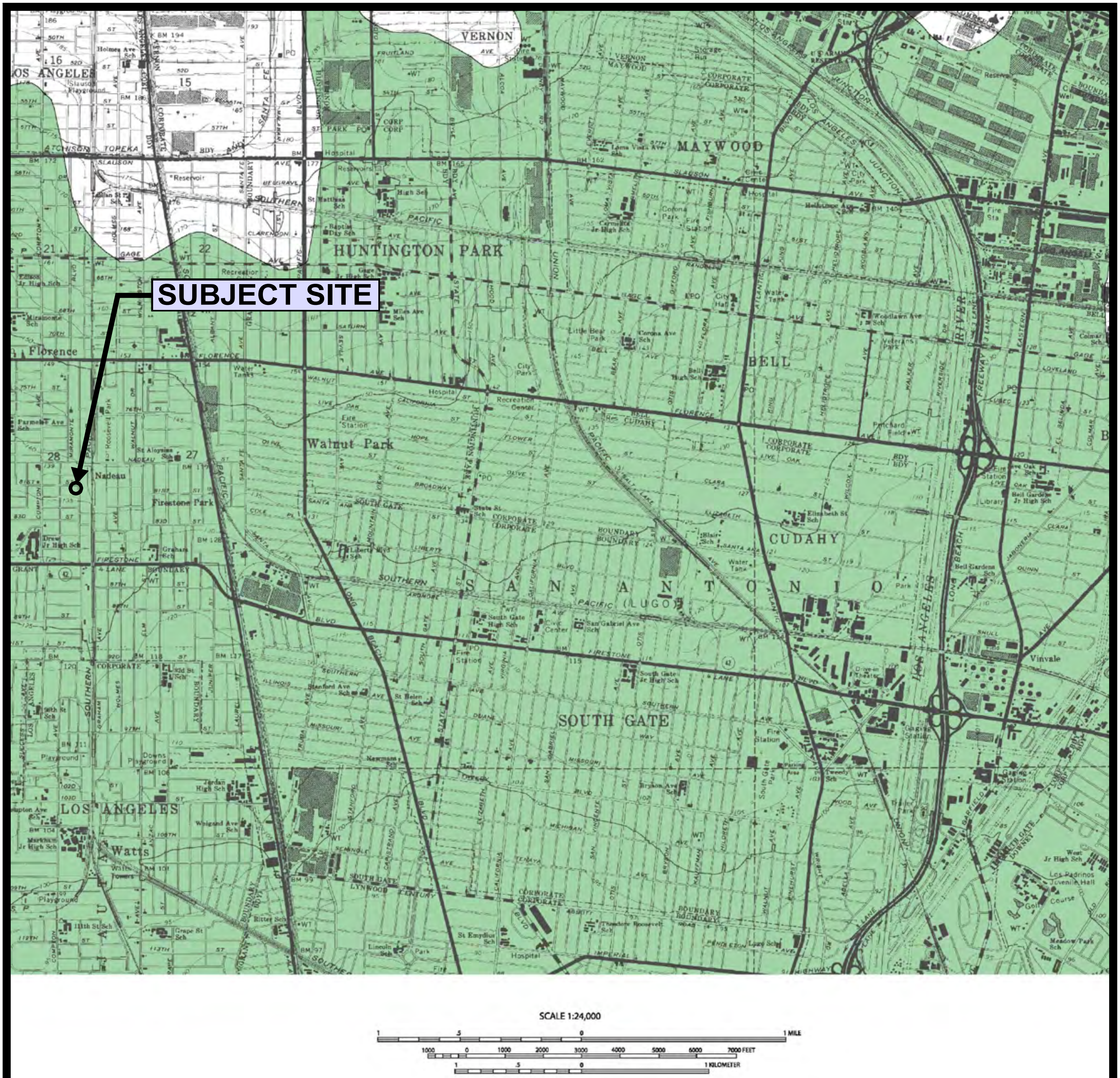
**REFERENCE:** CDMG, SEISMIC HAZARD ZONE REPORT, 034
SOUTH GATE 7.5 - MINUTE QUADRANGLE, LOS ANGELES COUNTY, CALIFORNIA (1998, REVISED 2006)

# HISTORICALLY HIGHEST GROUNDWATER LEVELS

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*

**KLARE HOLDINGS & ITS SUBSIDIARY**
1628 E. 81ST ST., LOS ANGELES

**FILE NO. 22006**



🟩 LIQUEFACTION AREA

**REFERENCE:** SEISMIC HAZARD ZONES, SOUTH GATE QUADRANGLE OFFICIAL MAP (CDMG, 1999)

# SEISMIC HAZARD ZONE MAP

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*

**KLARE HOLDINGS & ITS SUBSIDIARY**
1628 E. 81ST ST., LOS ANGELES

**FILE NO. 22006**

# BORING LOG NUMBER 1

**Klare Holdings** **Date: 06/29/20** **Approximate Elevation: 138**

**File No. 22006** **Method: 8-inch diameter Hollow Stem Auger**

dy

| Sample Depth ft. | Blows per ft. | Moisture content % | Dry Density p.c.f. | Depth in feet | USCS Class. | Description<br>Surface Conditions: Asphalt for parking |
|---|---|---|---|---|---|---|
| | | | | 0 -- | | 2-inch Asphalt over 3-inch Base |
| | | | | - | | |
| | | | | 1 -- | | FILL: Silty Sand, dark brown, moist, medium dense, fine grained |
| | | | | - | | |
| | | | | 2 -- | | |
| 2.5 | 17 | 5.0 | 102.2 | - | | |
| | | | | 3 -- | | |
| | | | | - | SP | Sand, dark and grayish brown, moist, medium dense, fine grained |
| | | | | 4 -- | | |
| | | | | - | | |
| 5 | 6 | 21.7 | SPT | 5 -- | | |
| | | | | - | SM/ML | Silty Sand to Sandy Silt, dark gray, moist, medium dense, fine grained, stiff |
| | | | | 6 -- | | |
| | | | | - | | |
| | | | | 7 -- | | |
| 7.5 | 21 | 22.7 | 90.1 | - | | |
| | | | | 8 -- | SP/ML | Sand to Sandy Silt, dark brown to dark gray, moist, medium dense, fine grained, stiff |
| | | | | - | | |
| | | | | 9 -- | | |
| | | | | - | | |
| 10 | 5 | 22.7 | SPT | 10 -- | | |
| | | | | - | SM/ML | Silty Sand to Sandy Silt, dark gray, moist, medium dense, fine grained, stiff |
| | | | | 11 -- | | |
| | | | | - | | |
| | | | | 12 -- | | |
| 12.5 | 29 | 11.8 | 116.5 | - | | |
| | | | | 13 -- | SM/SP | Silty Sand to Sand, dark and grayish brown, moist, medium dense, fine grained |
| | | | | - | | |
| | | | | 14 -- | | |
| | | | | - | | |
| 15 | 10 | 6.3 | SPT | 15 -- | | |
| | | | | - | SP | Sand, dark and yellowish brown, moist, medium dense, fine grained |
| | | | | 16 -- | | |
| | | | | - | | |
| | | | | 17 -- | | |
| 17.5 | 52 | 3.4 | 104.6 | - | | – – – – – – – – – – – |
| | | | | 18 -- | | yellow and grayish brown |
| | | | | - | | |
| | | | | 19 -- | | |
| | | | | - | | |
| 20 | 18 | 6.3 | SPT | 20 -- | | |
| | | | | - | | |
| | | | | 21 -- | | |
| | | | | - | | |
| | | | | 22 -- | | |
| 22.5 | 61 | 6.6 | 109.8 | - | | |
| | | | | 23 -- | | |
| | | | | - | | |
| | | | | 24 -- | | |
| | | | | - | | |
| 25 | 22 | 4.3 | SPT | 25 -- | | |
| | | | | - | | |

# BORING LOG NUMBER 1

**Klare Holdings**

**File No. 22006**

dy

| Sample Depth ft. | Blows per ft. | Moisture content % | Dry Density p.c.f. | Depth in feet | USCS Class. | Description |
|---|---|---|---|---|---|---|
| | | | | - | | |
| | | | | 26 -- | | |
| | | | | - | | |
| | | | | 27 -- | | |
| 27.5 | 59 | 19.1 | 108.7 | - | | |
| | | | | 28 -- | SM | Silty Sand, dark gray, moist, medium dense to dense, fine grained |
| | | | | - | | |
| | | | | 29 -- | | |
| | | | | - | | |
| 30 | 15 | 22.0 | SPT | 30 -- | | |
| | | | | - | CL | Silty Sand, to Sandy Silt, dark gray, moist, medium dense, fine grained, stiff |
| | | | | 31 -- | | |
| | | | | - | | |
| | | | | 32 -- | | |
| 32.5 | 49 | 21.6 | 108.0 | - | | |
| | | | | 33 -- | | |
| | | | | - | | |
| | | | | 34 -- | | |
| | | | | - | | |
| 35 | 10 | 25.3 | SPT | 35 -- | | |
| | | | | - | | |
| | | | | 36 -- | | |
| | | | | - | | |
| | | | | 37 -- | | |
| 37.5 | 100 | 8.5 | 111.1 | - | | |
| | | | | 38 -- | SM/SP | Silty Sand to Sand, dark and grayish brown, moist, very dense, fine grained |
| | | | | - | | |
| | | | | 39 -- | | |
| | | | | - | | |
| 40 | 23 | 6.4 | SPT | 40 -- | | |
| | | | | - | | |
| | | | | 41 -- | | |
| | | | | - | | |
| | | | | 42 -- | | |
| 42.5 | 52 | 28.2 | 97.9 | - | | |
| | | | | 43 -- | SM/ML | Silty Sand to Sandy Silt, dark and grayish brown, moist, medium dense, fine grained, stiff |
| | | | | - | | |
| | | | | 44 -- | | |
| | | | | - | | |
| 45 | 22 | 26.6 | SPT | 45 -- | | |
| | | | | - | SP/ML | Sand to Sandy Silt, gray to dark gray, moist, medium dense, fine grained, stiff |
| | | | | 46 -- | | |
| | | | | - | | |
| | | | | 47 -- | | |
| 47.5 | 68 | 25.0 | 101.3 | - | | |
| | | | | 48 -- | SM/ML | Silty Sand to Sandy Silt, gray to dark gray, moist, stiff, medium dense, fine grained |
| | | | | - | | |
| | | | | 49 -- | | |
| | | | | - | | |
| 50 | 20 | 22.1 | SPT | 50 -- | | |
| | | | | - | | |

# BORING LOG NUMBER 1

**Klare Holdings**

**File No. 22006**

dy

| Sample Depth ft. | Blows per ft. | Moisture content % | Dry Density p.c.f. | Depth in feet | USCS Class. | Description |
|---|---|---|---|---|---|---|
| | | | | - | | |
| | | | | 51 -- | | |
| | | | | - | | |
| | | | | 52 -- | | |
| 52.5 | 75 | 4.4 | 104.6 | - | | |
| | | | | 53 -- | SP | Sand, yellow and grayish brown, moist, very dense, fine grained |
| | | | | - | | |
| | | | | 54 -- | | |
| | | | | - | | |
| 55 | 27 | 9.9 | SPT | 55 -- | | |
| | | | | - | SP/ML | Sand to Sandy Silt, dark and grayish brown, moist, medium dense, fine grained, stiff |
| | | | | 56 -- | | |
| | | | | - | | |
| | | | | 57 -- | | |
| 57.5 | 63 | 28.8 | 94.4 | - | | |
| | | | | 58 -- | CL | Silty Clay, gray, moist, stiff |
| | | | | - | | |
| | | | | 59 -- | | |
| | | | | - | | |
| 60 | 16 | 32.8 | SPT | 60 -- | | |
| | | | | - | | Total Depth 60 feet |
| | | | | 61 -- | | No Water |
| | | | | - | | Fill to 3 feet |
| | | | | 62 -- | | |
| | | | | - | | NOTE: The stratification lines represent the approximate boundary between earth types; the transition may be gradual. |
| | | | | 63 -- | | |
| | | | | - | | |
| | | | | 64 -- | | Used 8-inch diameter Hollow-Stem Auger |
| | | | | - | | 140-lb. Automatic Hammer, 30-inch drop |
| | | | | 65 -- | | Modified California Sampler used unless otherwise noted |
| | | | | - | | |
| | | | | 66 -- | | SPT=Standard Penetration Test |
| | | | | - | | |
| | | | | 67 -- | | |
| | | | | - | | |
| | | | | 68 -- | | |
| | | | | - | | |
| | | | | 69 -- | | |
| | | | | - | | |
| | | | | 70 -- | | |
| | | | | - | | |
| | | | | 71 -- | | |
| | | | | - | | |
| | | | | 72 -- | | |
| | | | | - | | |
| | | | | 73 -- | | |
| | | | | - | | |
| | | | | 74 -- | | |
| | | | | - | | |
| | | | | 75 -- | | |
| | | | | - | | |

# BORING LOG NUMBER 2

**Klare Holdings** **Date: 06/29/20** **Approximate Elevation: 140**

**File No. 22006** **Method: 8-inch diameter Hollow Stem Auger**

dy

| Sample Depth ft. | Blows per ft. | Moisture content % | Dry Density p.c.f. | Depth in feet | USCS Class. | Description<br>Surface Conditions: Asphalt |
|---|---|---|---|---|---|---|
| | | | | 0 -- | | 2.5-inch Asphalt over 4.5-inch Base |
| | | | | - | | |
| | | | | 1 -- | | FILL: Silty Sand, dark and grayish brown, moist, medium dense, fine grained |
| | | | | - | | |
| | | | | 2 -- | | |
| 2.5 | 19 | 11.2 | 103.0 | - | | |
| | | | | 3 -- | | |
| | | | | - | SM/SP | Silty Sand to Sand, dark and grayish brown, moist, medium dense, fine grained |
| | | | | 4 -- | | |
| | | | | - | | |
| 5 | 7 | 18.6 | SPT | 5 -- | | |
| | | | | - | | |
| | | | | 6 -- | | |
| | | | | - | | |
| | | | | 7 -- | | |
| 7.5 | 29 | 19.5 | 100.5 | - | | |
| | | | | 8 -- | | |
| | | | | - | | |
| | | | | 9 -- | | |
| | | | | - | | |
| 10 | 9 | 28.0 | SPT | 10 -- | | |
| | | | | - | SM/ML | Silty Sand to Sandy Silt, dark and grayish brown, moist, medium dense, fine grained, stiff |
| | | | | 11 -- | | |
| | | | | - | | |
| | | | | 12 -- | | |
| 12.5 | 48 | 15.1 | 115.4 | - | | |
| | | | | 13 -- | SM | Silty Sand, dark brown and gray, moist, medium dense, fine grained |
| | | | | - | | |
| | | | | 14 -- | | |
| | | | | - | | |
| 15 | 16 | 11.5 | SPT | 15 -- | | |
| | | | | - | SM/SP | Silty Sand to Sand, dark brown and gray, moist, medium dense, fine grained |
| | | | | 16 -- | | |
| | | | | - | | |
| | | | | 17 -- | | |
| 17.5 | 77 | 4.4 | 107.2 | - | | |
| | | | | 18 -- | SP | Sand, dark and grayish brown, moist, dense, fine grained |
| | | | | - | | |
| | | | | 19 -- | | |
| | | | | - | | |
| 20 | 21 | 11.9 | SPT | 20 -- | | |
| | | | | - | SM/SP | Silty Sand, dark and grayish brown, moist, medium dense, fine grained |
| | | | | 21 -- | | |
| | | | | - | | |
| | | | | 22 -- | | |
| 22.5 | 79 | 3.5 | 112.5 | - | | |
| | | | | 23 -- | SP | Sand, dark and grayish brown, moist, very dense, fine grained |
| | | | | - | | |
| | | | | 24 -- | | |
| | | | | - | | |
| 25 | 29 | 8.8 | SPT | 25 -- | | |
| | | | | - | SM/SP | Silty Sand to Sand, dark and grayish brown, moist, medium dense, fine grained |

# BORING LOG NUMBER 2

**Klare Holdings**

**File No. 22006**

dy

| Sample Depth ft. | Blows per ft. | Moisture content % | Dry Density p.c.f. | Depth in feet | USCS Class. | Description |
|---|---|---|---|---|---|---|
| | | | | - | | |
| | | | | 26 -- | | |
| | | | | - | | |
| | | | | 27 -- | | |
| 27.5 | 64 | 11.3 | 102.6 | - | | |
| | | | | 28 -- | | dark gray to dark brown |
| | | | | - | | |
| | | | | 29 -- | | |
| | | | | - | | |
| 30 | 12 | 21.3 | SPT | 30 -- | | |
| | | | | - | CL | Sandy Clay, gray, moist, stiff |
| | | | | 31 -- | | |
| | | | | - | | |
| | | | | 32 -- | | |
| 32.5 | 44 | 21.3 | 105.9 | - | | |
| | | | | 33 -- | | |
| | | | | - | | |
| | | | | 34 -- | | |
| | | | | - | | |
| 35 | 14 | 20.9 | SPT | 35 -- | | |
| | | | | - | | some Silt intermixed |
| | | | | 36 -- | | |
| | | | | - | | |
| | | | | 37 -- | | |
| 37.5 | 100 | 8.4 | 108.6 | - | | |
| | | | | 38 -- | SP | Sand, grayish and dark brown, moist, very dense, fine grained |
| | | | | - | | |
| | | | | 39 -- | | |
| | | | | - | | |
| 40 | 43 | 9.0 | SPT | 40 -- | | |
| | | | | - | | |
| | | | | 41 -- | | |
| | | | | - | | |
| | | | | 42 -- | | |
| 42.5 | 100 | 10.1 | 114.9 | - | | |
| | | | | 43 -- | SM | Silty Sand, dark brown and gray, moist, very dense, |
| | | | | - | | fine grained |
| | | | | 44 -- | | |
| | | | | - | | |
| 45 | 26 | 25.3 | SPT | 45 -- | | |
| | | | | - | SM/ML | Silty Sand to Sandy Silt, gray to dark gray, moist, |
| | | | | 46 -- | | medium dense, fine grained |
| | | | | - | | |
| | | | | 47 -- | | |
| 47.5 | 72 | 22.4 | 105.8 | - | | |
| | | | | 48 -- | | |
| | | | | - | | |
| | | | | 49 -- | | |
| | | | | - | | |
| 50 | 26 | 21.4 | SPT | 50 -- | | |
| | | | | - | | |

# BORING LOG NUMBER 2

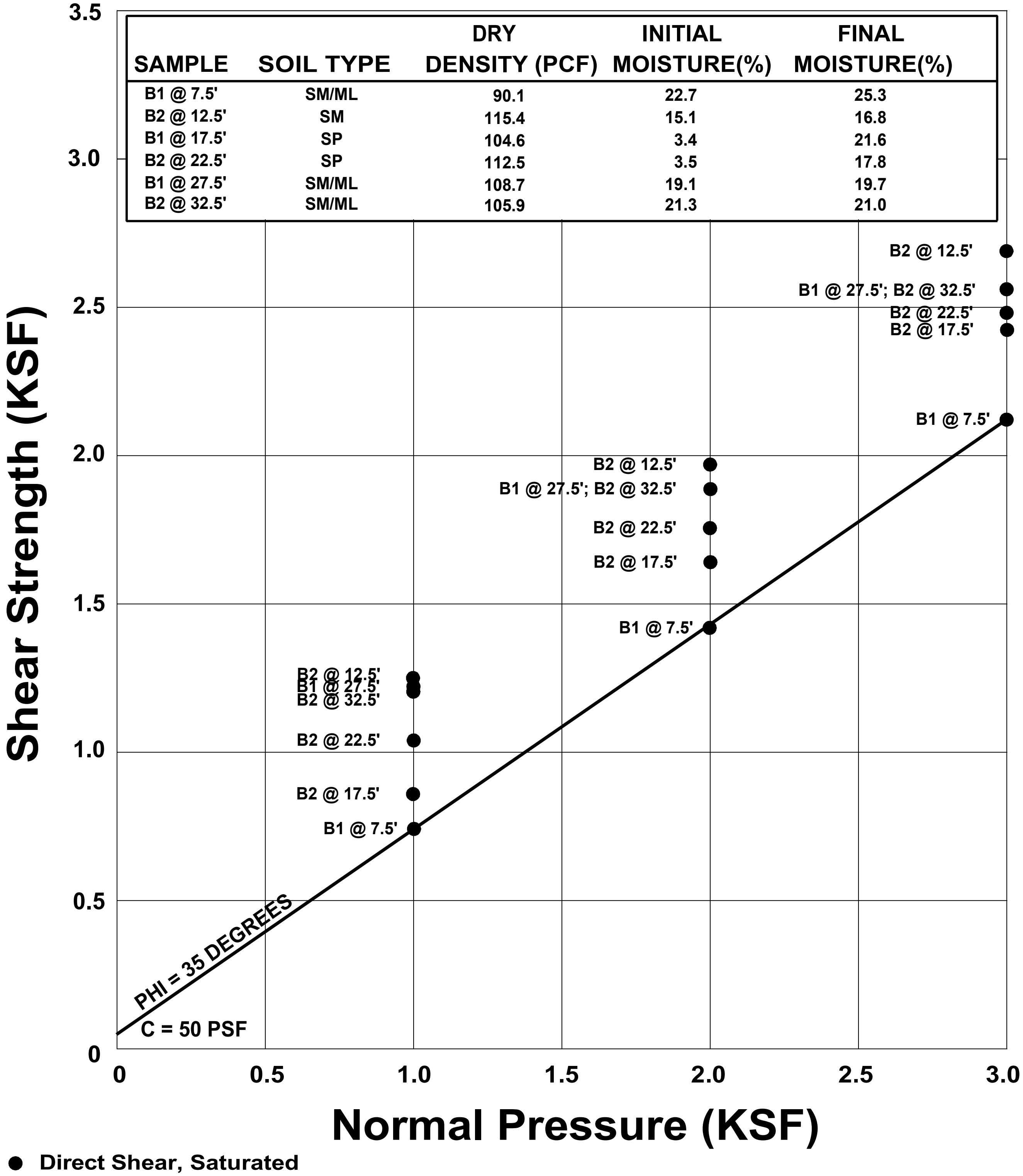
**Klare Holdings**

**File No. 22006**

dy

| Sample Depth ft. | Blows per ft. | Moisture content % | Dry Density p.c.f. | Depth in feet | USCS Class. | Description |
|---|---|---|---|---|---|---|
| | | | | - | | |
| | | | | 51 -- | | |
| | | | | - | | |
| | | | | 52 -- | | |
| 52.5 | 96 | 13.4 | 98.2 | - | | |
| | | | | 53 -- | SP | Sand, dark and grayish brown, moist, very dense, fine grained |
| | | | | - | | |
| | | | | 54 -- | | |
| | | | | - | | |
| 55 | 30 | 10.1 | SPT | 55 -- | | |
| | | | | - | SM/SP | Silty Sand, dark and grayish brown, moist, medium dense, fine grained |
| | | | | 56 -- | | |
| | | | | - | | |
| | | | | 57 -- | | |
| 57.5 | 72 | 31.6 | 91.6 | - | | |
| | | | | 58 -- | CL | Silty Clay, gray, moist, very stiff, |
| | | | | - | | |
| | | | | 59 -- | | |
| | | | | - | | |
| 60 | 21 | 26.3 | SPT | 60 -- | | |
| | | | | - | | Total Depth 60 feet |
| | | | | 61 -- | | No Water |
| | | | | - | | Fill to 3 feet |
| | | | | 62 -- | | |
| | | | | - | | NOTE: The stratification lines represent the approximate |
| | | | | 63 -- | | boundary between earth types; the transition may be gradual. |
| | | | | - | | |
| | | | | 64 -- | | Used 8-inch diameter Hollow-Stem Auger |
| | | | | - | | 140-lb. Automatic Hammer, 30-inch drop |
| | | | | 65 -- | | Modified California Sampler used unless otherwise noted |
| | | | | - | | |
| | | | | 66 -- | | SPT=Standard Penetration Test |
| | | | | - | | |
| | | | | 67 -- | | |
| | | | | - | | |
| | | | | 68 -- | | |
| | | | | - | | |
| | | | | 69 -- | | |
| | | | | - | | |
| | | | | 70 -- | | |
| | | | | - | | |
| | | | | 71 -- | | |
| | | | | - | | |
| | | | | 72 -- | | |
| | | | | - | | |
| | | | | 73 -- | | |
| | | | | - | | |
| | | | | 74 -- | | |
| | | | | - | | |
| | | | | 75 -- | | |
| | | | | - | | |

| SAMPLE | SOIL TYPE | DRY DENSITY (PCF) | INITIAL MOISTURE(%) | FINAL MOISTURE(%) |
|---|---|---|---|---|
| B1 @ 7.5' | SM/ML | 90.1 | 22.7 | 25.3 |
| B2 @ 12.5' | SM | 115.4 | 15.1 | 16.8 |
| B1 @ 17.5' | SP | 104.6 | 3.4 | 21.6 |
| B2 @ 22.5' | SP | 112.5 | 3.5 | 17.8 |
| B1 @ 27.5' | SM/ML | 108.7 | 19.1 | 19.7 |
| B2 @ 32.5' | SM/ML | 105.9 | 21.3 | 21.0 |

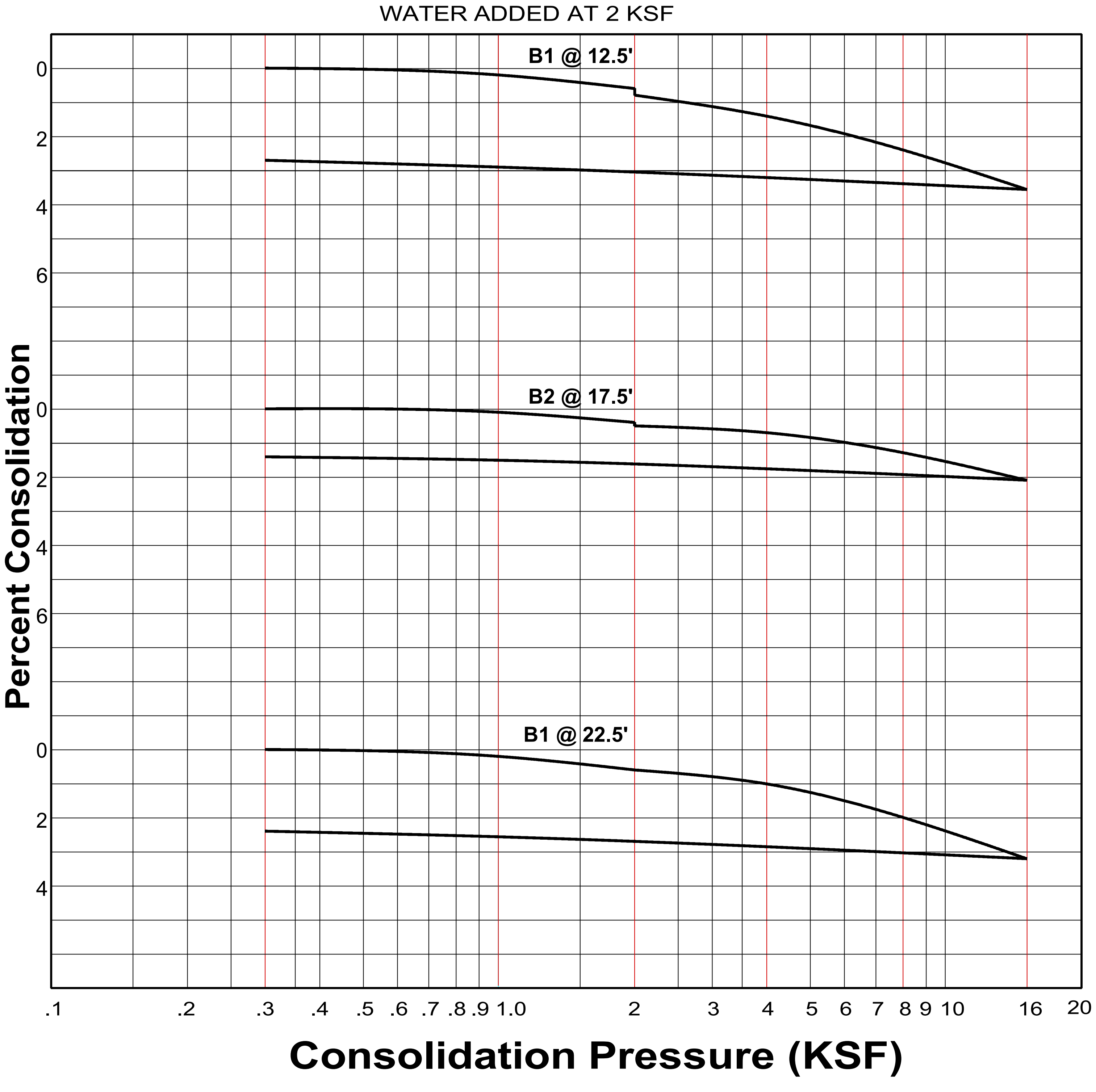


# SHEAR TEST DIAGRAM

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*

**KLARE HOLDINGS & ITS SUBSIDIARY**
1628 E. 81ST ST., LOS ANGELES

**FILE NO. 22006** **PLATE: B**



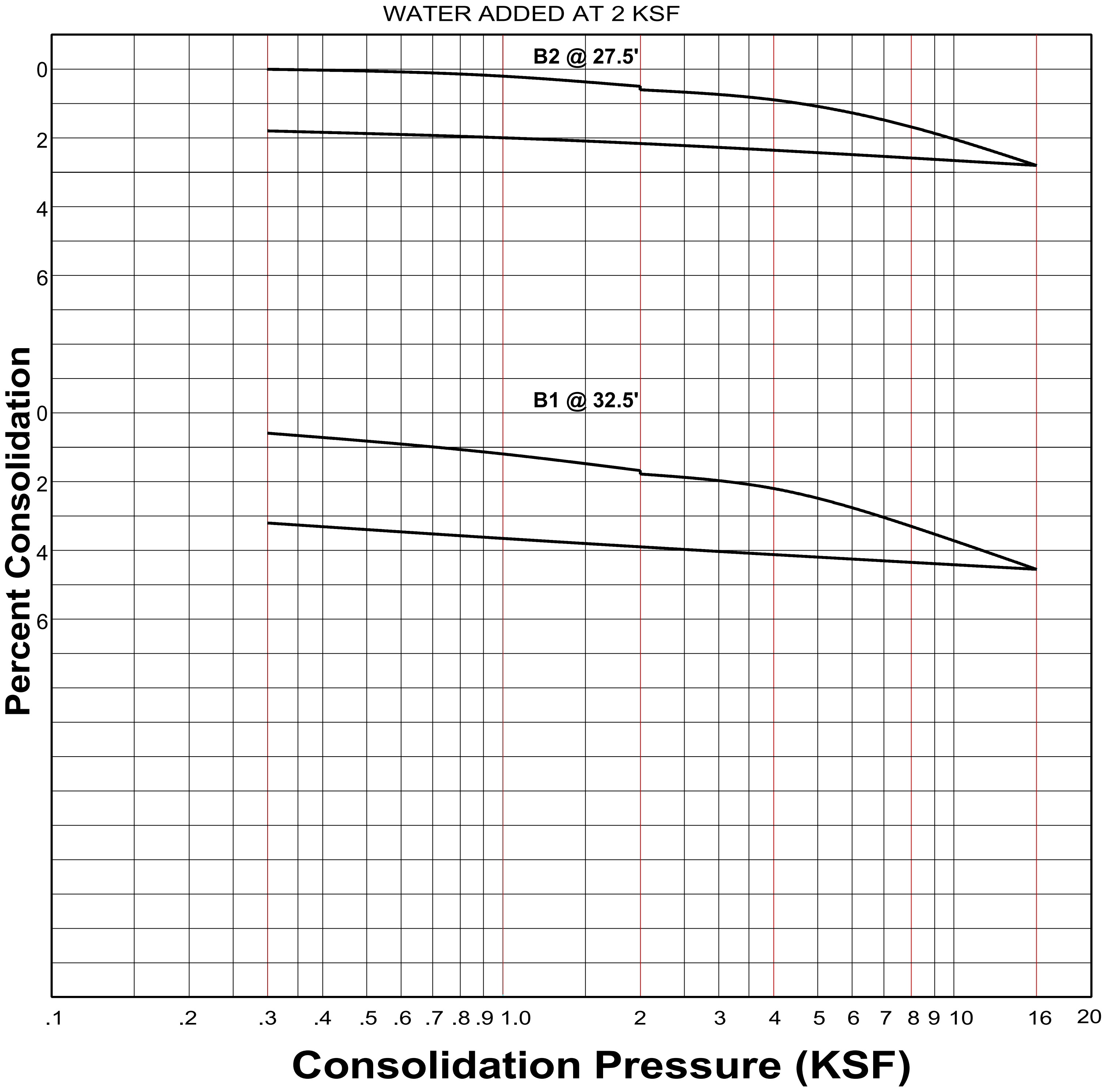
# CONSOLIDATION TEST

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*

**KLARE HOLDINGS & ITS SUBSIDIARY**
1628 E. 81ST ST., LOS ANGELES

**FILE NO. 22006**

**PLATE: C-1**



# CONSOLIDATION TEST

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*

**KLARE HOLDINGS & ITS SUBSIDIARY**
1628 E. 81ST ST., LOS ANGELES

**FILE NO. 22006**

**PLATE: C-2**

## ASTM D-1557

| SAMPLE | B1 @ 1-5' | B2 @ 1-5' |
|---|---|---|
| SOIL TYPE: | SM | SM |
| MAXIMUM DENSITY pcf. | 127.7 | 127.3 |
| OPTIMUM MOISTURE % | 10.0 | 10.3 |

## ASTM D 4829

| SAMPLE | B1 @ 1-5' | B2 @ 1-5' |
|---|---|---|
| SOIL TYPE: | SM | SM |
| EXPANSION INDEX UBC STANDARD 18-2 | 17 | 17 |
| EXPANSION CHARACTER | VERY LOW | VERY LOW |

## SULFATE CONTENT

| SAMPLE | B1 @ 1-5' | B2 @ 1-5' |
|---|---|---|
| SULFATE CONTENT: (percentage by weight) | < 0.10% | < 0.10% |

# COMPACTION/EXPANSION/SULFATE DATA SHEET

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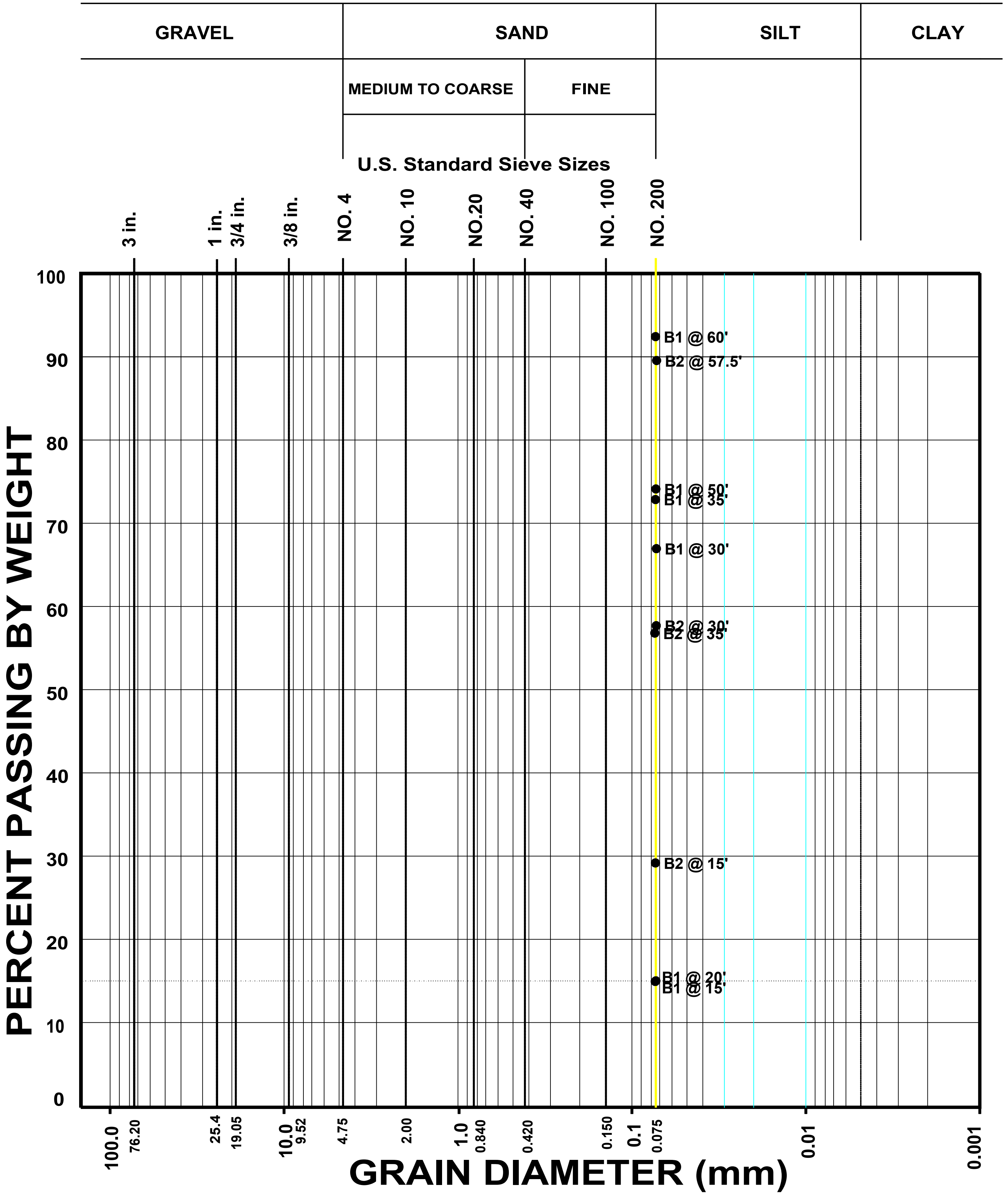
*Consulting Geotechnical Engineers*

**KLARE HOLDINGS & ITS SUBSIDIARY**
1628 E. 81ST ST., LOS ANGELES

**FILE NO. 22006** **PLATE: D**



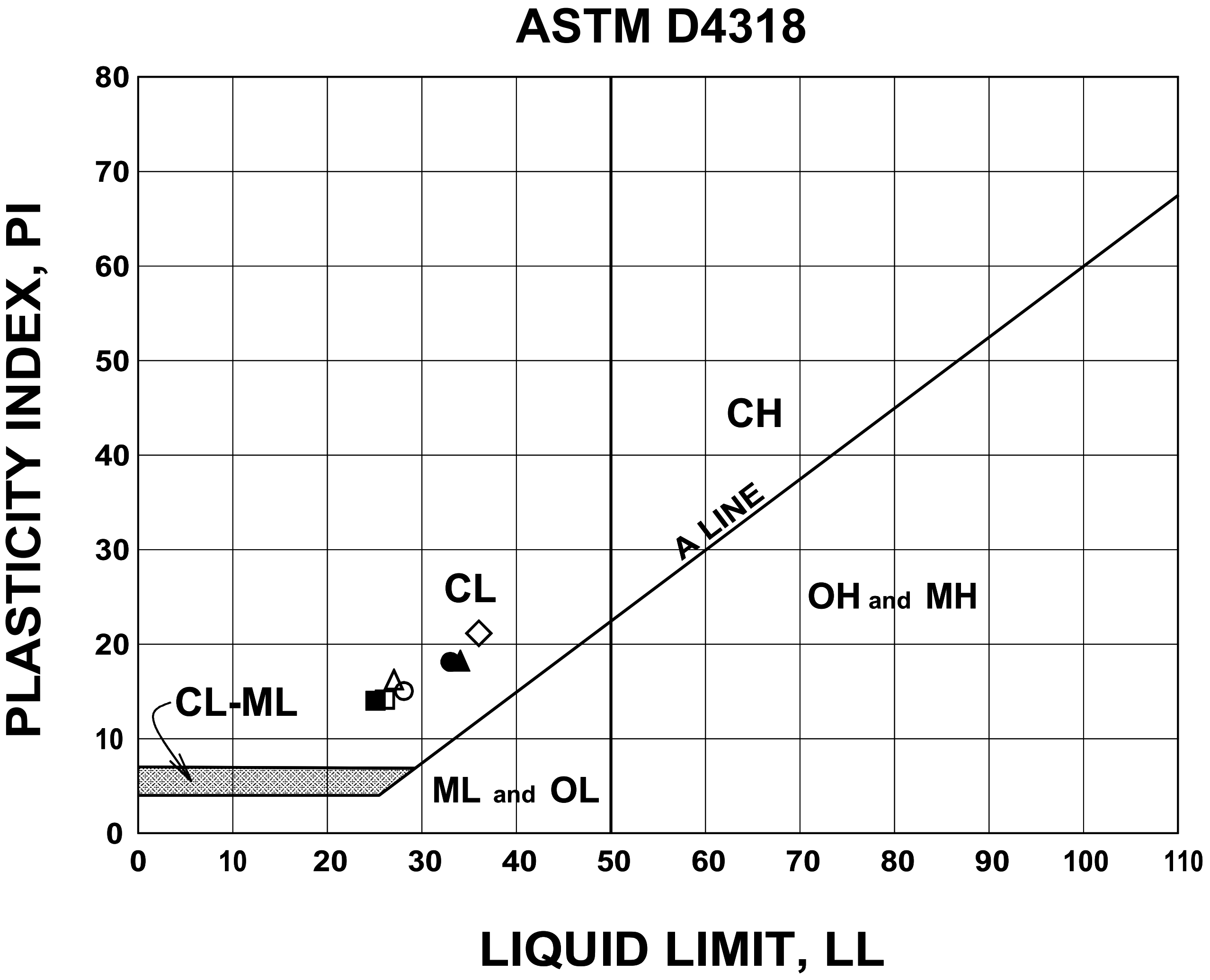
# GRAIN SIZE DISTRIBUTION

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*

**KLARE HOLDINGS & ITS SUBSIDIARY**
1628 E. 81ST ST., LOS ANGELES

**FILE NO. 22006**

**PLATE: E**



| BORING NUMBER | DEPTH (FEET) | TEST SYMBOL | LL | PL | PI | DESCRIPTION |
|---|---|---|---|---|---|---|
| B1 | 30 | ○ | 28 | 13 | 15 | CL |
| B1 | 35 | ● | 33 | 15 | 18 | CL |
| B1 | 50 | △ | 27 | 11 | 16 | CL |
| B1 | 60 | ▲ | 34 | 16 | 18 | CL |
| B2 | 30 | □ | 26 | 12 | 14 | CL |
| B2 | 35 | ■ | 25 | 11 | 14 | CL |
| B2 | 57.5 | ◇ | 36 | 15 | 21 | CL |

# ATTERBERG LIMITS DETERMINATION

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*

**KLARE HOLDINGS & ITS SUBSIDIARY**
1628 E. 81ST ST., LOS ANGELES

**FILE NO. 22006** **PLATE: F**

**Geotechnologies, Inc.**

Project: Klare Holdings & Its Subsidiary
File No.: 22006
Description: Liquefaction Analysis - Maximum Considered Earthquake (2% Probability of Exceedance in 50 years)
Boring Number: 1

# LIQUEFACTION EVALUATION (Idriss & Boulanger, EERI NO 12)

**EARTHQUAKE INFORMATION:**

| | |
|---|---|
| Earthquake Magnitude (M): | 6.8 |
| Peak Ground Horizontal Acceleration, PGA (g): | 0.85 |
| Calculated Mag.Wtg.Factor: | 1.193 |

**GROUNDWATER INFORMATION:**

| | |
|---|---|
| Current Groundwater Level (ft): | 61.0 |
| Historically Highest Groundwater Level* (ft): | 15.0 |
| Unit Weight of Water (pcf): | 62.4 |

* Based on California Geological Survey Seismic Hazard Evaluation Report

**BOREHOLE AND SAMPLER INFORMATION:**

| | |
|---|---|
| Borehole Diameter (inches): | 8 |
| SPT Sampler with room for Liner (Y/N): | Y |

**LIQUEFACTION BOUNDARY:**

| | |
|---|---|
| Plastic Index Cut Off (PI): | 12 |
| Minimum Liquefaction FS: | 1.3 |

| Depth to Base Layer (feet) | Total Unit Weight (pcf) | Current Water Level (feet) | Historical Water Level (feet) | Field SPT Blowcount N | Depth of SPT Blowcount (feet) | Fines Content #200 Sieve (%) | Plastic Index (PI) | Vetical Stress $\sigma_{vc}$, (psf) | Effective Vert. Stress $\sigma_{vc}'$, (psf) | Fines Corrected $(N_1)_{60\text{-}cs}$ | Stress Reduction Coeff, $r_d$ | Cyclic Shear Ratio CSR | Cyclic Resistance Ratio (CRR) | Factor of Safety CRR/CSR (F.S.) | Liquefaction Settlment $\Delta S_i$ (inches) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 108.9 | Unsaturated | Unsaturated | 6 | 5 | 0.0 | 0 | 108.9 | 108.9 | 12.2 | 1.00 | 0.552 | 0.176 | Non-Liq. | 0.00 |
| 2 | 108.9 | Unsaturated | Unsaturated | 6 | 5 | 0.0 | 0 | 217.8 | 217.8 | 12.2 | 1.00 | 0.550 | 0.176 | Non-Liq. | 0.00 |
| 3 | 108.9 | Unsaturated | Unsaturated | 6 | 5 | 0.0 | 0 | 326.7 | 326.7 | 12.2 | 1.00 | 0.548 | 0.176 | Non-Liq. | 0.00 |
| 4 | 108.9 | Unsaturated | Unsaturated | 6 | 5 | 0.0 | 0 | 435.6 | 435.6 | 12.2 | 0.99 | 0.546 | 0.176 | Non-Liq. | 0.00 |
| 5 | 108.9 | Unsaturated | Unsaturated | 6 | 5 | 0.0 | 0 | 544.5 | 544.5 | 13.1 | 0.99 | 0.544 | 0.185 | Non-Liq. | 0.00 |
| 6 | 108.9 | Unsaturated | Unsaturated | 6 | 5 | 0.0 | 0 | 653.4 | 653.4 | 13.1 | 0.99 | 0.542 | 0.185 | Non-Liq. | 0.00 |
| 7 | 108.9 | Unsaturated | Unsaturated | 6 | 5 | 0.0 | 0 | 762.3 | 762.3 | 13.1 | 0.98 | 0.540 | 0.185 | Non-Liq. | 0.00 |
| 8 | 120.4 | Unsaturated | Unsaturated | 5 | 10 | 0.0 | 0 | 882.7 | 882.7 | 10.6 | 0.98 | 0.538 | 0.158 | Non-Liq. | 0.00 |
| 9 | 120.4 | Unsaturated | Unsaturated | 5 | 10 | 0.0 | 0 | 1003.1 | 1003.1 | 10.4 | 0.98 | 0.536 | 0.154 | Non-Liq. | 0.00 |
| 10 | 120.4 | Unsaturated | Unsaturated | 5 | 10 | 0.0 | 0 | 1123.5 | 1123.5 | 9.7 | 0.97 | 0.533 | 0.146 | Non-Liq. | 0.00 |
| 11 | 120.4 | Unsaturated | Unsaturated | 5 | 10 | 0.0 | 0 | 1243.9 | 1243.9 | 9.2 | 0.97 | 0.531 | 0.140 | Non-Liq. | 0.00 |
| 12 | 120.4 | Unsaturated | Unsaturated | 5 | 10 | 0.0 | 0 | 1364.3 | 1364.3 | 8.7 | 0.96 | 0.529 | 0.135 | Non-Liq. | 0.00 |
| 13 | 120.4 | Unsaturated | Unsaturated | 5 | 10 | 0.0 | 0 | 1484.7 | 1484.7 | 8.3 | 0.96 | 0.526 | 0.131 | Non-Liq. | 0.00 |
| 14 | 120.4 | Unsaturated | Unsaturated | 5 | 10 | 0.0 | 0 | 1605.1 | 1605.1 | 7.9 | 0.95 | 0.524 | 0.127 | Non-Liq. | 0.00 |
| 15 | 119.2 | Unsaturated | Unsaturated | 10 | 15 | 14.9 | 0 | 1724.3 | 1724.3 | 20.6 | 0.95 | 0.521 | 0.261 | Non-Liq. | 0.00 |
| 16 | 119.2 | Unsaturated | Saturated | 10 | 15 | 14.9 | 0 | 1843.5 | 1781.1 | 20.3 | 0.94 | 0.536 | 0.255 | 0.5 | 0.27 |
| 17 | 119.2 | Unsaturated | Saturated | 10 | 15 | 14.9 | 0 | 1962.7 | 1837.9 | 20.0 | 0.94 | 0.551 | 0.250 | 0.5 | 0.28 |
| 18 | 119.2 | Unsaturated | Saturated | 10 | 15 | 14.9 | 0 | 2081.9 | 1894.7 | 19.7 | 0.93 | 0.563 | 0.245 | 0.4 | 0.28 |
| 19 | 119.2 | Unsaturated | Saturated | 10 | 15 | 14.9 | 0 | 2201.1 | 1951.5 | 19.4 | 0.93 | 0.575 | 0.240 | 0.4 | 0.28 |
| 20 | 112.6 | Unsaturated | Saturated | 18 | 20 | 15.0 | 0 | 2313.7 | 2001.7 | 34.6 | 0.92 | 0.586 | 1.239 | 2.1 | 0.00 |
| 21 | 112.6 | Unsaturated | Saturated | 18 | 20 | 15.0 | 0 | 2426.3 | 2051.9 | 34.3 | 0.92 | 0.596 | 1.149 | 1.9 | 0.00 |
| 22 | 112.6 | Unsaturated | Saturated | 18 | 20 | 15.0 | 0 | 2538.9 | 2102.1 | 33.9 | 0.91 | 0.605 | 1.072 | 1.8 | 0.00 |
| 23 | 112.6 | Unsaturated | Saturated | 18 | 20 | 15.0 | 0 | 2651.5 | 2152.3 | 33.6 | 0.91 | 0.614 | 1.004 | 1.6 | 0.00 |
| 24 | 112.6 | Unsaturated | Saturated | 18 | 20 | 15.0 | 0 | 2764.1 | 2202.5 | 33.3 | 0.90 | 0.622 | 0.944 | 1.5 | 0.00 |
| 25 | 123.2 | Unsaturated | Saturated | 22 | 25 | 0.0 | 0 | 2887.3 | 2263.3 | 38.0 | 0.90 | 0.628 | 2.000 | 3.2 | 0.00 |
| 26 | 123.2 | Unsaturated | Saturated | 22 | 25 | 0.0 | 0 | 3010.5 | 2324.1 | 37.6 | 0.89 | 0.634 | 2.000 | 3.2 | 0.00 |
| 27 | 123.2 | Unsaturated | Saturated | 22 | 25 | 0.0 | 0 | 3133.7 | 2384.9 | 37.2 | 0.89 | 0.639 | 2.000 | 3.1 | 0.00 |
| 28 | 130.4 | Unsaturated | Saturated | 15 | 30 | 67.0 | 15 | 3264.1 | 2452.9 | 30.0 | 0.88 | 0.643 | 0.559 | Non-Liq. | 0.00 |
| 29 | 130.4 | Unsaturated | Saturated | 15 | 30 | 67.0 | 15 | 3394.5 | 2520.9 | 29.7 | 0.87 | 0.646 | 0.534 | Non-Liq. | 0.00 |
| 30 | 130.4 | Unsaturated | Saturated | 15 | 30 | 67.0 | 15 | 3524.9 | 2588.9 | 29.4 | 0.87 | 0.649 | 0.512 | Non-Liq. | 0.00 |
| 31 | 130.4 | Unsaturated | Saturated | 15 | 30 | 67.0 | 15 | 3655.3 | 2656.9 | 29.1 | 0.86 | 0.651 | 0.492 | Non-Liq. | 0.00 |
| 32 | 130.4 | Unsaturated | Saturated | 15 | 30 | 67.0 | 15 | 3785.7 | 2724.9 | 28.8 | 0.86 | 0.653 | 0.475 | Non-Liq. | 0.00 |
| 33 | 130.4 | Unsaturated | Saturated | 15 | 30 | 67.0 | 15 | 3916.1 | 2792.9 | 28.5 | 0.85 | 0.655 | 0.458 | Non-Liq. | 0.00 |
| 34 | 130.4 | Unsaturated | Saturated | 15 | 30 | 67.0 | 15 | 4046.5 | 2860.9 | 28.3 | 0.84 | 0.656 | 0.443 | Non-Liq. | 0.00 |
| 35 | 126.0 | Unsaturated | Saturated | 10 | 35 | 72.8 | 18 | 4172.5 | 2924.5 | 19.4 | 0.84 | 0.657 | 0.226 | Non-Liq. | 0.00 |
| 36 | 126.0 | Unsaturated | Saturated | 10 | 35 | 72.8 | 18 | 4298.5 | 2988.1 | 19.2 | 0.83 | 0.658 | 0.224 | Non-Liq. | 0.00 |
| 37 | 126.0 | Unsaturated | Saturated | 10 | 35 | 72.8 | 18 | 4424.5 | 3051.7 | 19.0 | 0.83 | 0.658 | 0.221 | Non-Liq. | 0.00 |
| 38 | 123.1 | Unsaturated | Saturated | 23 | 40 | 0.0 | 0 | 4547.6 | 3112.4 | 37.9 | 0.82 | 0.659 | 2.000 | 3.0 | 0.00 |
| 39 | 123.1 | Unsaturated | Saturated | 23 | 40 | 0.0 | 0 | 4670.7 | 3173.1 | 37.6 | 0.81 | 0.659 | 2.000 | 3.0 | 0.00 |
| 40 | 123.1 | Unsaturated | Saturated | 23 | 40 | 0.0 | 0 | 4793.8 | 3233.8 | 37.4 | 0.81 | 0.659 | 2.000 | 3.0 | 0.00 |
| 41 | 123.1 | Unsaturated | Saturated | 23 | 40 | 0.0 | 0 | 4916.9 | 3294.5 | 37.1 | 0.80 | 0.658 | 1.863 | 2.8 | 0.00 |
| 42 | 123.1 | Unsaturated | Saturated | 23 | 40 | 0.0 | 0 | 5040.0 | 3355.2 | 36.8 | 0.80 | 0.658 | 1.738 | 2.6 | 0.00 |
| 43 | 126.1 | Unsaturated | Saturated | 22 | 45 | 0.0 | 0 | 5166.1 | 3418.9 | 34.4 | 0.79 | 0.657 | 1.031 | 1.6 | 0.00 |
| 44 | 126.1 | Unsaturated | Saturated | 22 | 45 | 0.0 | 0 | 5292.2 | 3482.6 | 34.2 | 0.79 | 0.655 | 0.979 | 1.5 | 0.00 |
| 45 | 126.1 | Unsaturated | Saturated | 22 | 45 | 0.0 | 0 | 5418.3 | 3546.3 | 33.9 | 0.78 | 0.654 | 0.931 | 1.4 | 0.00 |
| 46 | 126.1 | Unsaturated | Saturated | 22 | 45 | 0.0 | 0 | 5544.4 | 3610.0 | 33.7 | 0.77 | 0.652 | 0.888 | 1.4 | 0.00 |
| 47 | 126.1 | Unsaturated | Saturated | 22 | 45 | 0.0 | 0 | 5670.5 | 3673.7 | 33.4 | 0.77 | 0.651 | 0.849 | 1.3 | 0.00 |
| 48 | 117.9 | Unsaturated | Saturated | 20 | 50 | 74.1 | 16 | 5788.4 | 3729.2 | 34.7 | 0.76 | 0.649 | 1.069 | Non-Liq. | 0.00 |
| 49 | 117.9 | Unsaturated | Saturated | 20 | 50 | 74.1 | 16 | 5906.3 | 3784.7 | 34.6 | 0.76 | 0.648 | 1.028 | Non-Liq. | 0.00 |
| 50 | 117.9 | Unsaturated | Saturated | 20 | 50 | 74.1 | 16 | 6024.2 | 3840.2 | 34.4 | 0.75 | 0.646 | 0.990 | Non-Liq. | 0.00 |
| 51 | 117.9 | Unsaturated | Saturated | 20 | 50 | 74.1 | 16 | 6142.1 | 3895.7 | 34.2 | 0.74 | 0.645 | 0.955 | Non-Liq. | 0.00 |
| 52 | 117.9 | Unsaturated | Saturated | 20 | 50 | 74.1 | 16 | 6260.0 | 3951.2 | 34.0 | 0.74 | 0.643 | 0.922 | Non-Liq. | 0.00 |
| 53 | 115.4 | Unsaturated | Saturated | 27 | 55 | 0.0 | 0 | 6375.4 | 4004.2 | 42.6 | 0.73 | 0.641 | 1.935 | 3.0 | 0.00 |
| 54 | 115.4 | Unsaturated | Saturated | 27 | 55 | 0.0 | 0 | 6490.8 | 4057.2 | 42.5 | 0.73 | 0.639 | 1.926 | 3.0 | 0.00 |
| 55 | 115.4 | Unsaturated | Saturated | 27 | 55 | 0.0 | 0 | 6606.2 | 4110.2 | 42.3 | 0.72 | 0.638 | 1.917 | 3.0 | 0.00 |
| 56 | 115.4 | Unsaturated | Saturated | 27 | 55 | 0.0 | 0 | 6721.6 | 4163.2 | 42.2 | 0.72 | 0.636 | 1.907 | 3.0 | 0.00 |
| 57 | 115.4 | Unsaturated | Saturated | 27 | 55 | 0.0 | 0 | 6837.0 | 4216.2 | 42.0 | 0.71 | 0.633 | 1.899 | 3.0 | 0.00 |
| 58 | 121.6 | Unsaturated | Saturated | 16 | 60 | 92.3 | 18 | 6958.6 | 4275.4 | 25.9 | 0.71 | 0.631 | 0.328 | Non-Liq. | 0.00 |
| 59 | 121.6 | Unsaturated | Saturated | 16 | 60 | 92.3 | 18 | 7080.2 | 4334.6 | 25.8 | 0.70 | 0.628 | 0.324 | Non-Liq. | 0.00 |
| 60 | 121.6 | Unsaturated | Saturated | 16 | 60 | 92.3 | 18 | 7201.8 | 4393.8 | 25.6 | 0.70 | 0.626 | 0.320 | Non-Liq. | 0.00 |
| | | | | | | | | | | | **Total Liquefaction Settlement, S =** | | | **1.11 inches** | |

**Geotechnologies, Inc.**

Project: Klare Holdings & Its Subsidiary
File No.: 22006
Description: Liquefaction Analysis - Maximum Considered Earthquake (2% Probability of Exceedance in 50 years)
Boring Number: 2

# LIQUEFACTION EVALUATION (Idriss & Boulanger, EERI NO 12)

**EARTHQUAKE INFORMATION:**

| | |
|---|---|
| Earthquake Magnitude (M): | 6.8 |
| Peak Ground Horizontal Acceleration, PGA (g): | 0.85 |
| Calculated Mag.Wtg.Factor: | 1.203 |

**GROUNDWATER INFORMATION:**

| | |
|---|---|
| Current Groundwater Level (ft): | 61.0 |
| Historically Highest Groundwater Level* (ft): | 15.0 |
| Unit Weight of Water (pcf): | 62.4 |

* Based on California Geological Survey Seismic Hazard Evaluation Report

**BOREHOLE AND SAMPLER INFORMATION:**

| | |
|---|---|
| Borehole Diameter (inches): | 8 |
| SPT Sampler with room for Liner (Y/N): | Y |

**LIQUEFACTION BOUNDARY:**

| | |
|---|---|
| Plastic Index Cut Off (PI): | 12 |
| Minimum Liquefaction FS: | 1.3 |

| Depth to Base Layer (feet) | Total Unit Weight (pcf) | Current Water Level (feet) | Historical Water Level (feet) | Field SPT Blowcount N | Depth of SPT Blowcount (feet) | Fines Content #200 Sieve (%) | Plastic Index (PI) | Vetical Stress $\sigma_{vc}$, (psf) | Effective Vert. Stress $\sigma_{vc}'$, (psf) | Fines Corrected $(N_1)_{60\text{-}cs}$ | Stress Reduction Coeff, $r_d$ | Cyclic Shear Ratio CSR | Cyclic Resistance Ratio (CRR) | Factor of Safety CRR/CSR (F.S.) | Liquefaction Settlment $\Delta S_i$ (inches) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 117.3 | Unsaturated | Unsaturated | 7 | 5 | 0.0 | 0 | 117.3 | 117.3 | 14.5 | 1.00 | 0.552 | 0.201 | Non-Liq. | 0.00 |
| 2 | 117.3 | Unsaturated | Unsaturated | 7 | 5 | 0.0 | 0 | 234.6 | 234.6 | 14.5 | 1.00 | 0.550 | 0.201 | Non-Liq. | 0.00 |
| 3 | 117.3 | Unsaturated | Unsaturated | 7 | 5 | 0.0 | 0 | 351.9 | 351.9 | 14.5 | 1.00 | 0.548 | 0.201 | Non-Liq. | 0.00 |
| 4 | 117.3 | Unsaturated | Unsaturated | 7 | 5 | 0.0 | 0 | 469.2 | 469.2 | 14.5 | 0.99 | 0.546 | 0.201 | Non-Liq. | 0.00 |
| 5 | 117.3 | Unsaturated | Unsaturated | 7 | 5 | 0.0 | 0 | 586.5 | 586.5 | 15.6 | 0.99 | 0.544 | 0.213 | Non-Liq. | 0.00 |
| 6 | 117.3 | Unsaturated | Unsaturated | 7 | 5 | 0.0 | 0 | 703.8 | 703.8 | 15.6 | 0.99 | 0.542 | 0.213 | Non-Liq. | 0.00 |
| 7 | 117.3 | Unsaturated | Unsaturated | 7 | 5 | 0.0 | 0 | 821.1 | 821.1 | 15.4 | 0.98 | 0.540 | 0.211 | Non-Liq. | 0.00 |
| 8 | 117.3 | Unsaturated | Unsaturated | 7 | 5 | 0.0 | 0 | 938.4 | 938.4 | 14.2 | 0.98 | 0.538 | 0.196 | Non-Liq. | 0.00 |
| 9 | 117.3 | Unsaturated | Unsaturated | 7 | 5 | 0.0 | 0 | 1055.7 | 1055.7 | 14.1 | 0.97 | 0.535 | 0.192 | Non-Liq. | 0.00 |
| 10 | 126.5 | Unsaturated | Unsaturated | 9 | 10 | 0.0 | 0 | 1182.2 | 1182.2 | 17.0 | 0.97 | 0.533 | 0.224 | Non-Liq. | 0.00 |
| 11 | 126.5 | Unsaturated | Unsaturated | 9 | 10 | 0.0 | 0 | 1308.7 | 1308.7 | 16.1 | 0.97 | 0.531 | 0.210 | Non-Liq. | 0.00 |
| 12 | 126.5 | Unsaturated | Unsaturated | 9 | 10 | 0.0 | 0 | 1435.2 | 1435.2 | 15.2 | 0.96 | 0.528 | 0.198 | Non-Liq. | 0.00 |
| 13 | 126.5 | Unsaturated | Unsaturated | 9 | 10 | 0.0 | 0 | 1561.7 | 1561.7 | 14.5 | 0.96 | 0.526 | 0.189 | Non-Liq. | 0.00 |
| 14 | 126.5 | Unsaturated | Unsaturated | 9 | 10 | 0.0 | 0 | 1688.2 | 1688.2 | 13.9 | 0.95 | 0.523 | 0.181 | Non-Liq. | 0.00 |
| 15 | 122.4 | Unsaturated | Unsaturated | 16 | 15 | 28.8 | 0 | 1810.6 | 1810.6 | 33.9 | 0.95 | 0.521 | 1.120 | Non-Liq. | 0.00 |
| 16 | 122.4 | Unsaturated | Saturated | 16 | 15 | 28.8 | 0 | 1933.0 | 1870.6 | 33.5 | 0.94 | 0.535 | 1.024 | 1.9 | 0.00 |
| 17 | 122.4 | Unsaturated | Saturated | 16 | 15 | 28.8 | 0 | 2055.4 | 1930.6 | 33.1 | 0.94 | 0.548 | 0.944 | 1.7 | 0.00 |
| 18 | 122.4 | Unsaturated | Saturated | 16 | 15 | 28.8 | 0 | 2177.8 | 1990.6 | 32.7 | 0.93 | 0.560 | 0.875 | 1.6 | 0.00 |
| 19 | 122.4 | Unsaturated | Saturated | 16 | 15 | 28.8 | 0 | 2300.2 | 2050.6 | 32.3 | 0.93 | 0.571 | 0.817 | 1.4 | 0.00 |
| 20 | 114.2 | Unsaturated | Saturated | 21 | 20 | 0.0 | 0 | 2414.4 | 2102.4 | 37.0 | 0.92 | 0.582 | 2.000 | 3.4 | 0.00 |
| 21 | 114.2 | Unsaturated | Saturated | 21 | 20 | 0.0 | 0 | 2528.6 | 2154.2 | 36.6 | 0.92 | 0.591 | 1.888 | 3.2 | 0.00 |
| 22 | 114.2 | Unsaturated | Saturated | 21 | 20 | 0.0 | 0 | 2642.8 | 2206.0 | 36.2 | 0.91 | 0.600 | 1.723 | 2.9 | 0.00 |
| 23 | 114.2 | Unsaturated | Saturated | 21 | 20 | 0.0 | 0 | 2757.0 | 2257.8 | 35.9 | 0.91 | 0.608 | 1.582 | 2.6 | 0.00 |
| 24 | 114.2 | Unsaturated | Saturated | 21 | 20 | 0.0 | 0 | 2871.2 | 2309.6 | 35.5 | 0.90 | 0.615 | 1.459 | 2.4 | 0.00 |
| 25 | 115.3 | Unsaturated | Saturated | 29 | 25 | 0.0 | 0 | 2986.5 | 2362.5 | 50.0 | 0.89 | 0.621 | 2.000 | 3.2 | 0.00 |
| 26 | 115.3 | Unsaturated | Saturated | 29 | 25 | 0.0 | 0 | 3101.8 | 2415.4 | 49.7 | 0.89 | 0.627 | 2.000 | 3.2 | 0.00 |
| 27 | 115.3 | Unsaturated | Saturated | 29 | 25 | 0.0 | 0 | 3217.1 | 2468.3 | 49.4 | 0.88 | 0.632 | 2.000 | 3.2 | 0.00 |
| 28 | 115.3 | Unsaturated | Saturated | 29 | 25 | 0.0 | 0 | 3332.4 | 2521.2 | 51.7 | 0.88 | 0.637 | 2.000 | 3.1 | 0.00 |
| 29 | 115.3 | Unsaturated | Saturated | 29 | 25 | 0.0 | 0 | 3447.7 | 2574.1 | 51.4 | 0.87 | 0.641 | 2.000 | 3.1 | 0.00 |
| 30 | 121.3 | Unsaturated | Saturated | 12 | 30 | 57.6 | 14 | 3569.0 | 2633.0 | 23.7 | 0.87 | 0.645 | 0.304 | Non-Liq. | 0.00 |
| 31 | 121.3 | Unsaturated | Saturated | 12 | 30 | 57.6 | 14 | 3690.3 | 2691.9 | 23.5 | 0.86 | 0.648 | 0.298 | Non-Liq. | 0.00 |
| 32 | 121.3 | Unsaturated | Saturated | 12 | 30 | 57.6 | 14 | 3811.6 | 2750.8 | 23.3 | 0.85 | 0.650 | 0.293 | Non-Liq. | 0.00 |
| 33 | 121.3 | Unsaturated | Saturated | 12 | 30 | 57.6 | 14 | 3932.9 | 2809.7 | 23.1 | 0.85 | 0.652 | 0.288 | Non-Liq. | 0.00 |
| 34 | 121.3 | Unsaturated | Saturated | 12 | 30 | 57.6 | 14 | 4054.2 | 2868.6 | 22.9 | 0.84 | 0.654 | 0.284 | Non-Liq. | 0.00 |
| 35 | 123.1 | Unsaturated | Saturated | 14 | 35 | 56.7 | 14 | 4177.3 | 2929.3 | 26.2 | 0.84 | 0.655 | 0.365 | Non-Liq. | 0.00 |
| 36 | 123.1 | Unsaturated | Saturated | 14 | 35 | 56.7 | 14 | 4300.4 | 2990.0 | 26.0 | 0.83 | 0.656 | 0.357 | Non-Liq. | 0.00 |
| 37 | 123.1 | Unsaturated | Saturated | 14 | 35 | 56.7 | 14 | 4423.5 | 3050.7 | 25.8 | 0.82 | 0.657 | 0.350 | Non-Liq. | 0.00 |
| 38 | 122.1 | Unsaturated | Saturated | 43 | 40 | 0.0 | 0 | 4545.6 | 3110.4 | 72.6 | 0.82 | 0.657 | 2.000 | 3.0 | 0.00 |
| 39 | 122.1 | Unsaturated | Saturated | 43 | 40 | 0.0 | 0 | 4667.7 | 3170.1 | 72.2 | 0.81 | 0.657 | 2.000 | 3.0 | 0.00 |
| 40 | 122.1 | Unsaturated | Saturated | 43 | 40 | 0.0 | 0 | 4789.8 | 3229.8 | 71.8 | 0.81 | 0.657 | 2.000 | 3.0 | 0.00 |
| 41 | 122.1 | Unsaturated | Saturated | 43 | 40 | 0.0 | 0 | 4911.9 | 3289.5 | 71.5 | 0.80 | 0.657 | 2.000 | 3.0 | 0.00 |
| 42 | 122.1 | Unsaturated | Saturated | 43 | 40 | 0.0 | 0 | 5034.0 | 3349.2 | 71.2 | 0.79 | 0.656 | 2.000 | 3.0 | 0.00 |
| 43 | 122.1 | Unsaturated | Saturated | 43 | 40 | 0.0 | 0 | 5156.1 | 3408.9 | 70.8 | 0.79 | 0.655 | 2.000 | 3.1 | 0.00 |
| 44 | 122.1 | Unsaturated | Saturated | 43 | 40 | 0.0 | 0 | 5278.2 | 3468.6 | 70.5 | 0.78 | 0.654 | 2.000 | 3.1 | 0.00 |
| 45 | 128.0 | Unsaturated | Saturated | 26 | 45 | 0.0 | 0 | 5406.2 | 3534.2 | 42.4 | 0.78 | 0.653 | 2.000 | 3.1 | 0.00 |
| 46 | 128.0 | Unsaturated | Saturated | 26 | 45 | 0.0 | 0 | 5534.2 | 3599.8 | 42.2 | 0.77 | 0.651 | 2.000 | 3.1 | 0.00 |
| 47 | 128.0 | Unsaturated | Saturated | 26 | 45 | 0.0 | 0 | 5662.2 | 3665.4 | 42.0 | 0.76 | 0.649 | 2.000 | 3.1 | 0.00 |
| 48 | 128.0 | Unsaturated | Saturated | 26 | 45 | 0.0 | 0 | 5790.2 | 3731.0 | 41.8 | 0.76 | 0.647 | 2.000 | 3.1 | 0.00 |
| 49 | 128.0 | Unsaturated | Saturated | 26 | 45 | 0.0 | 0 | 5918.2 | 3796.6 | 41.5 | 0.75 | 0.645 | 1.988 | 3.1 | 0.00 |
| 50 | 120.5 | Unsaturated | Saturated | 26 | 50 | 0.0 | 0 | 6038.7 | 3854.7 | 41.3 | 0.75 | 0.643 | 1.977 | 3.1 | 0.00 |
| 51 | 120.5 | Unsaturated | Saturated | 26 | 50 | 0.0 | 0 | 6159.2 | 3912.8 | 41.1 | 0.74 | 0.641 | 1.967 | 3.1 | 0.00 |
| 52 | 120.5 | Unsaturated | Saturated | 26 | 50 | 0.0 | 0 | 6279.7 | 3970.9 | 40.9 | 0.74 | 0.639 | 1.956 | 3.1 | 0.00 |
| 53 | 116.0 | Unsaturated | Saturated | 30 | 55 | 0.0 | 0 | 6395.7 | 4024.5 | 47.3 | 0.73 | 0.637 | 1.947 | 3.1 | 0.00 |
| 54 | 116.0 | Unsaturated | Saturated | 30 | 55 | 0.0 | 0 | 6511.7 | 4078.1 | 47.1 | 0.72 | 0.635 | 1.937 | 3.0 | 0.00 |
| 55 | 116.0 | Unsaturated | Saturated | 30 | 55 | 0.0 | 0 | 6627.7 | 4131.7 | 47.0 | 0.72 | 0.633 | 1.928 | 3.0 | 0.00 |
| 56 | 116.0 | Unsaturated | Saturated | 30 | 55 | 0.0 | 0 | 6743.7 | 4185.3 | 46.8 | 0.71 | 0.631 | 1.919 | 3.0 | 0.00 |
| 57 | 116.0 | Unsaturated | Saturated | 30 | 55 | 0.0 | 0 | 6859.7 | 4238.9 | 46.7 | 0.71 | 0.629 | 1.910 | 3.0 | 0.00 |
| 58 | 120.5 | Unsaturated | Saturated | 21 | 60 | 89.6 | 21 | 6980.2 | 4297.0 | 34.9 | 0.70 | 0.627 | 1.072 | Non-Liq. | 0.00 |
| 59 | 120.5 | Unsaturated | Saturated | 21 | 60 | 89.6 | 21 | 7100.7 | 4355.1 | 34.8 | 0.70 | 0.624 | 1.035 | Non-Liq. | 0.00 |
| 60 | 120.5 | Unsaturated | Saturated | 21 | 60 | 89.6 | 21 | 7221.2 | 4413.2 | 34.6 | 0.69 | 0.622 | 1.000 | Non-Liq. | 0.00 |
| | | | | | | | | | | | **Total Liquefaction Settlement, S =** | | | **0.00 inches** | |

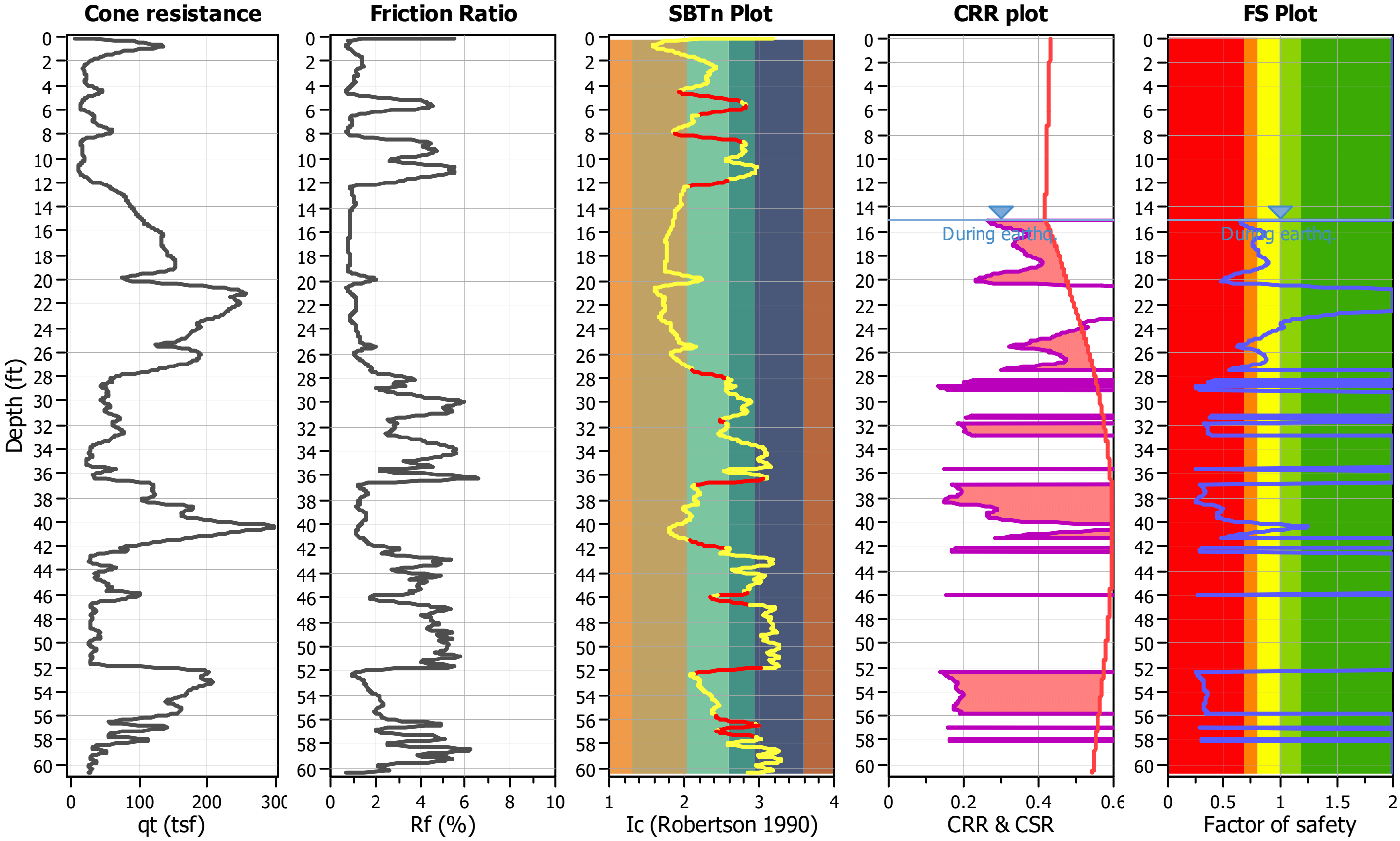
# LIQUEFACTION ANALYSIS REPORT

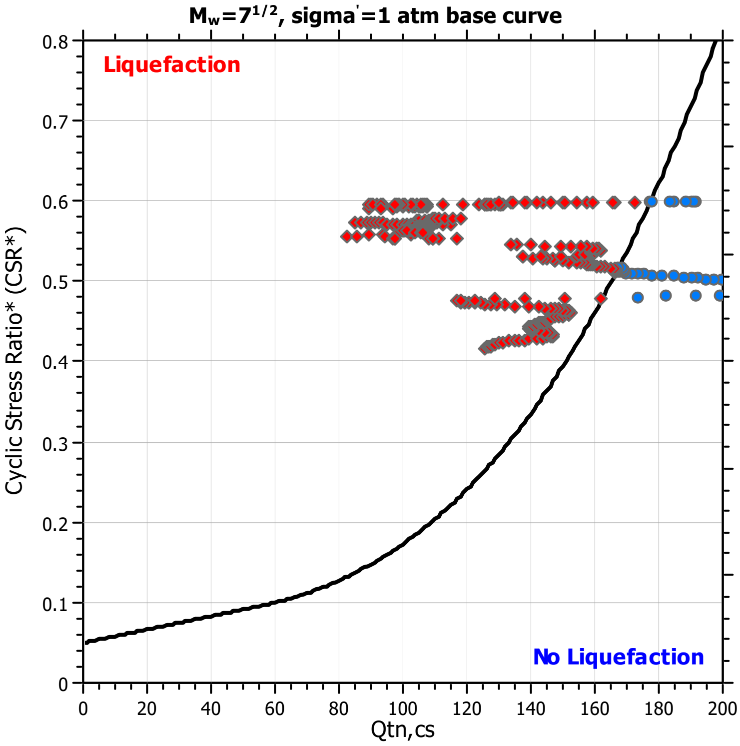
**Project Title: Klare Holdings & Its Subsidiary (File No. 22006)** **Location : 1628 East 81st Street, Los Angeles, CA**

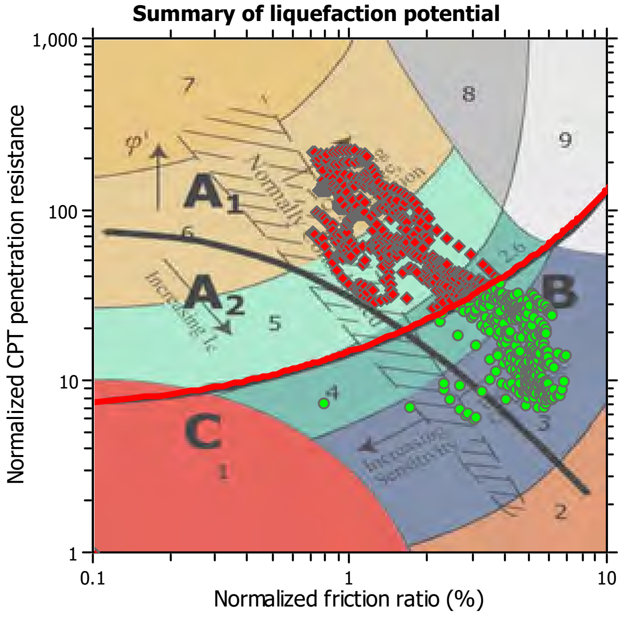
**CPT File: CPT-1**

### Input parameters and analysis data

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Analysis method: | NCEER (1998) | G.W.T. (in-situ): | 61.00 ft | Use fill: | No | Clay like behavior applied: | Sands only |
| Fines correction method: | NCEER (1998) | G.W.T. (earthq.): | 15.00 ft | Fill height: | N/A | | |
| Points to test: | Based on Ic value | Average results interval: | 3 | Fill weight: | N/A | Limit depth applied: | Yes |
| Earthquake magnitude $M_w$: | 6.80 | Ic cut-off value: | 2.60 | Trans. detect. applied: | Yes | Limit depth: | 60.00 ft |
| Peak ground acceleration: | 0.85 | Unit weight calculation: | Based on SBT | $K_\sigma$ applied: | Yes | MSF method: | Method based |

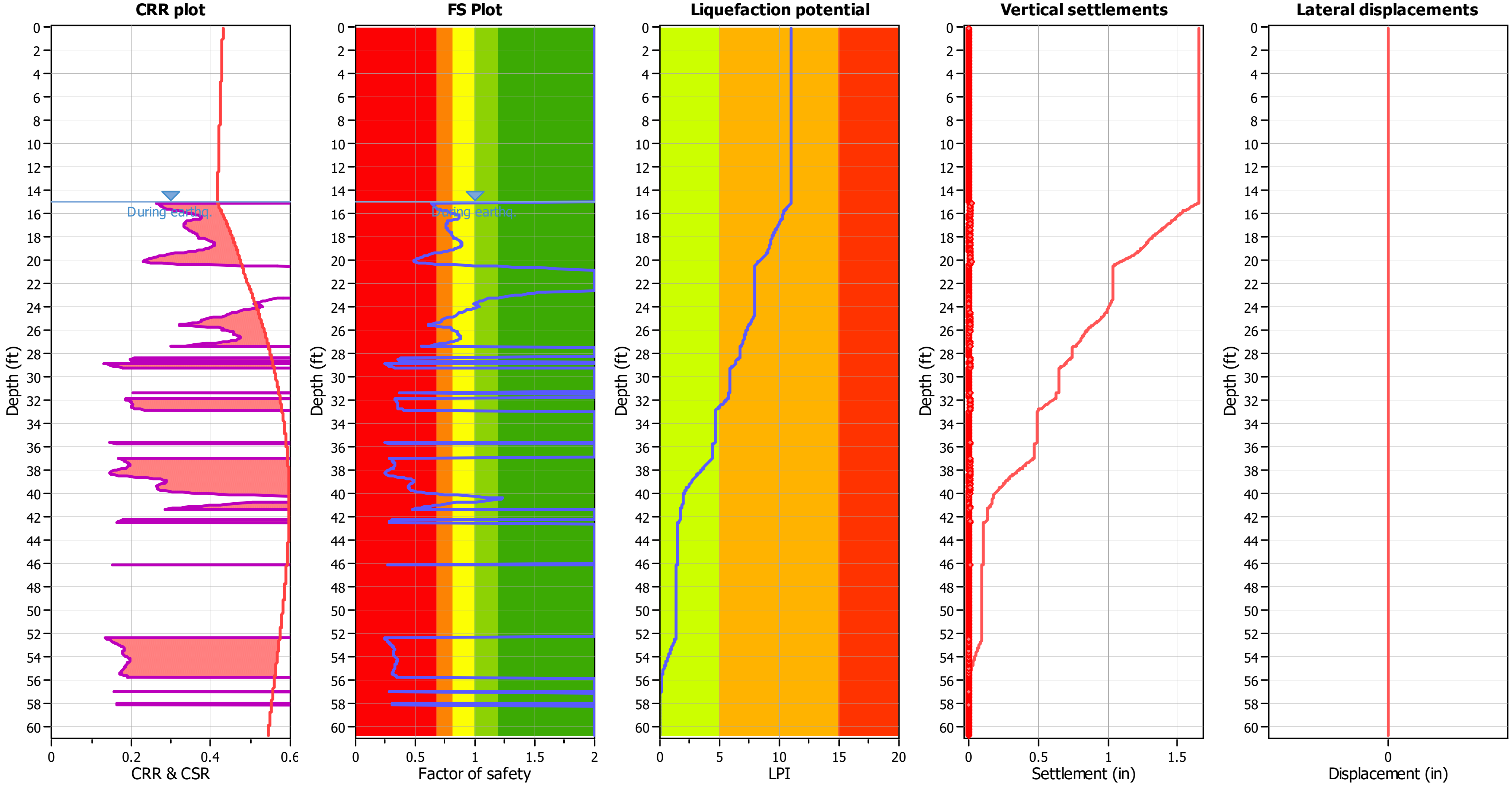






Zone $A_1$: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone $A_2$: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

# Liquefaction analysis overall plots



## Input parameters and analysis data

| | | | | | |
|---|---|---|---|---|---|
| Analysis method: | NCEER (1998) | Depth to water table (erthq.): | 15.00 ft | Fill weight: | N/A |
| Fines correction method: | NCEER (1998) | Average results interval: | 3 | Transition detect. applied: | Yes |
| Points to test: | Based on Ic value | Ic cut-off value: | 2.60 | $K_\sigma$ applied: | Yes |
| Earthquake magnitude $M_w$: | 6.80 | Unit weight calculation: | Based on SBT | Clay like behavior applied: | Sands only |
| Peak ground acceleration: | 0.85 | Use fill: | No | Limit depth applied: | Yes |
| Depth to water table (insitu): | 61.00 ft | Fill height: | N/A | Limit depth: | 60.00 ft |

**F.S. color scheme**

- 🟥 Almost certain it will liquefy
- 🟧 Very likely to liquefy
- 🟨 Liquefaction and no liq. are equally likely
- 🟩 Unlike to liquefy
- 🟩 Almost certain it will not liquefy

**LPI color scheme**

- 🟥 Very high risk
- 🟧 High risk
- 🟨 Low risk

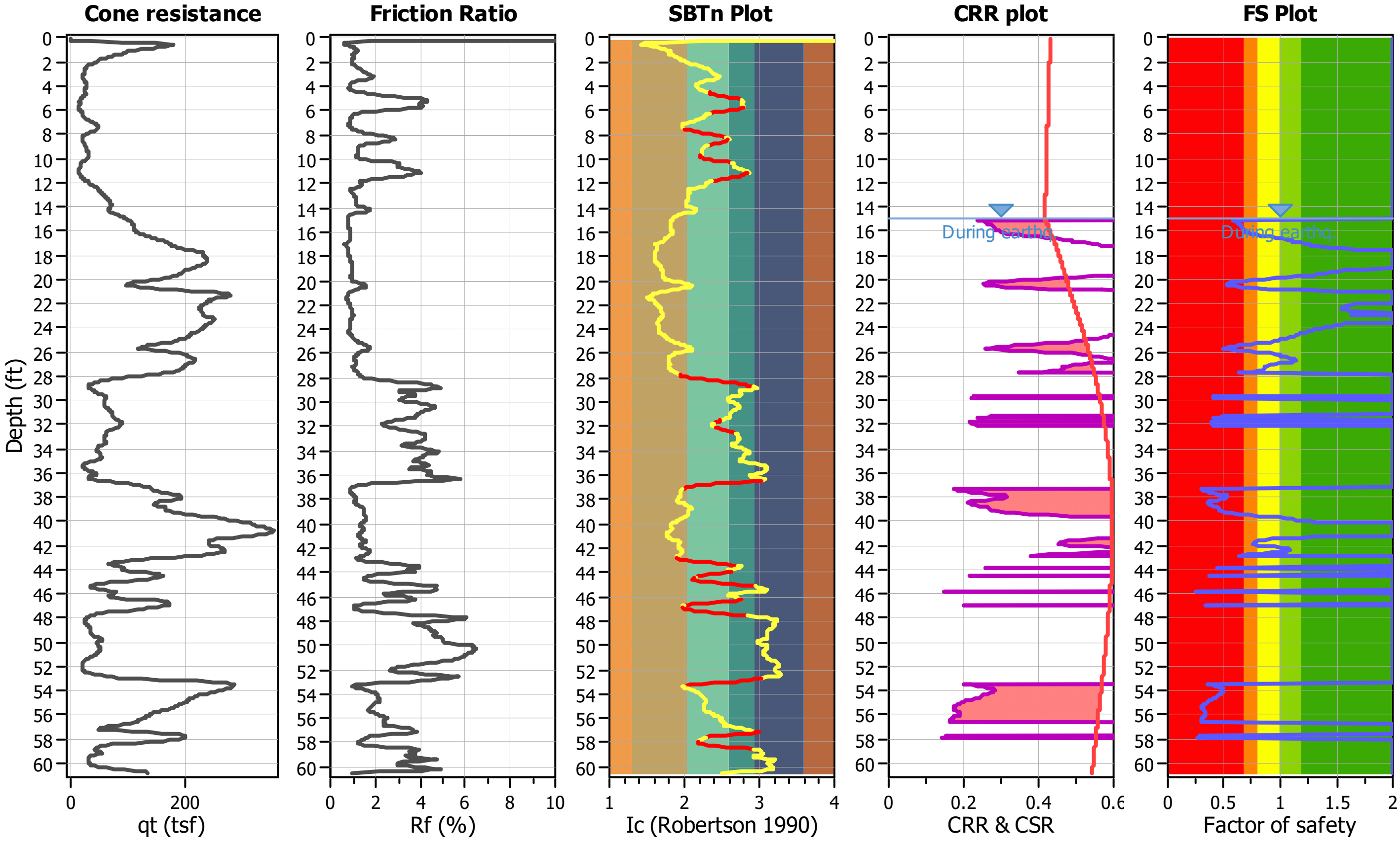
# LIQUEFACTION ANALYSIS REPORT

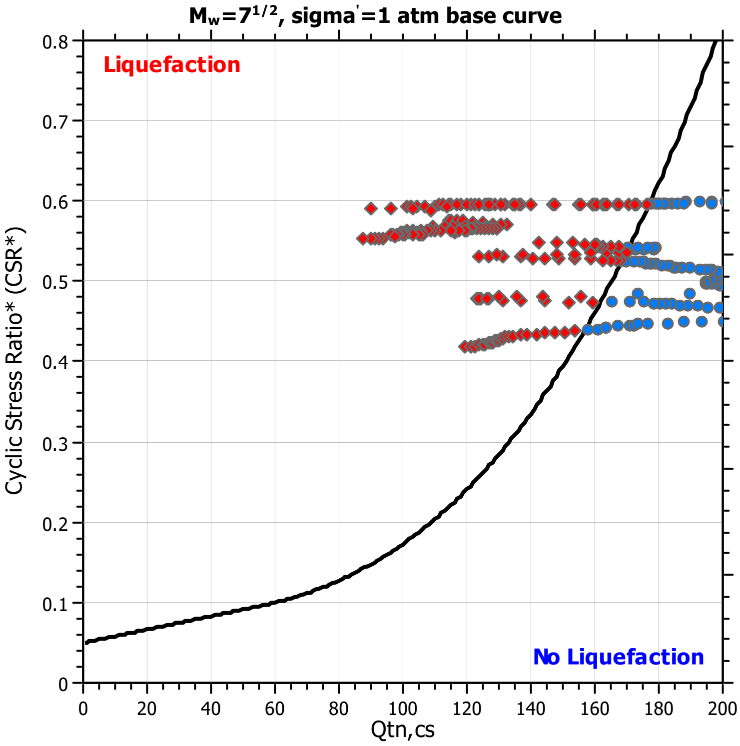
**Project Title: Klare Holdings & Its Subsidiary (File No. 22006)** **Location : 1628 East 81st Street, Los Angeles, CA**

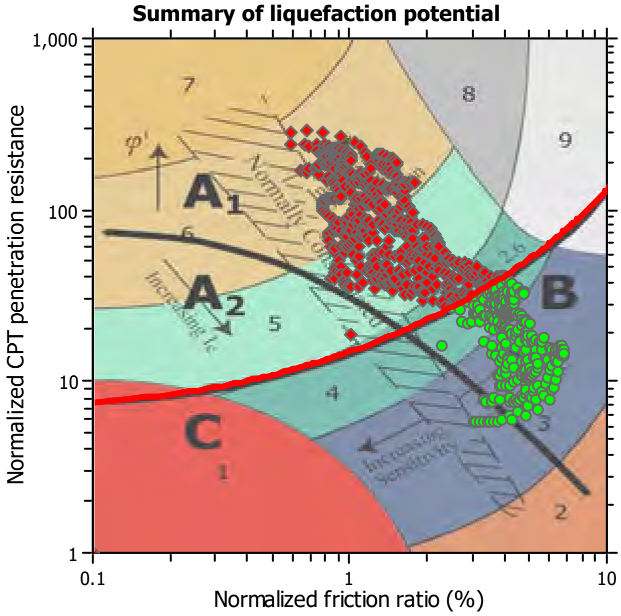
**CPT File: CPT-2**

### Input parameters and analysis data

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Analysis method: | NCEER (1998) | G.W.T. (in-situ): | 61.00 ft | Use fill: | No | Clay like behavior applied: | Sands only |
| Fines correction method: | NCEER (1998) | G.W.T. (earthq.): | 15.00 ft | Fill height: | N/A | Limit depth applied: | Yes |
| Points to test: | Based on Ic value | Average results interval: | 3 | Fill weight: | N/A | Limit depth: | 60.00 ft |
| Earthquake magnitude $M_w$: | 6.80 | Ic cut-off value: | 2.60 | Trans. detect. applied: | Yes | MSF method: | Method based |
| Peak ground acceleration: | 0.85 | Unit weight calculation: | Based on SBT | $K_\sigma$ applied: | Yes | | |

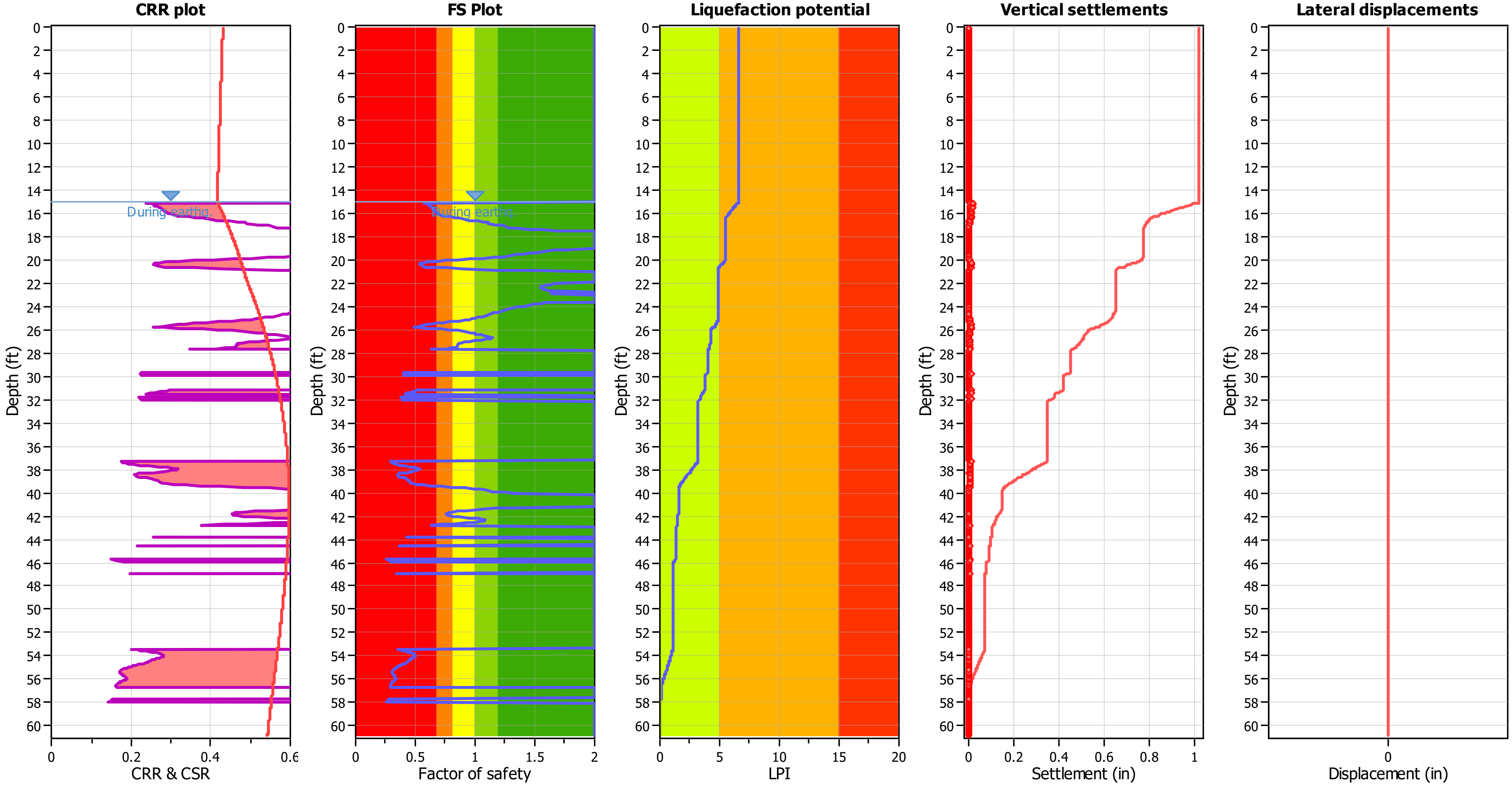






Zone $A_1$: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone $A_2$: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

# Liquefaction analysis overall plots



## Input parameters and analysis data

Analysis method: NCEER (1998)
Fines correction method: NCEER (1998)
Points to test: Based on Ic value
Earthquake magnitude $M_w$: 6.80
Peak ground acceleration: 0.85
Depth to water table (insitu): 61.00 ft

Depth to water table (erthq.): 15.00 ft
Average results interval: 3
Ic cut-off value: 2.60
Unit weight calculation: Based on SBT
Use fill: No
Fill height: N/A

Fill weight: N/A
Transition detect. applied: Yes
$K_\sigma$ applied: Yes
Clay like behavior applied: Sands only
Limit depth applied: Yes
Limit depth: 60.00 ft

### F.S. color scheme

- 🟥 Almost certain it will liquefy
- 🟧 Very likely to liquefy
- 🟨 Liquefaction and no liq. are equally likely
- 🟩 Unlike to liquefy
- 🟩 Almost certain it will not liquefy

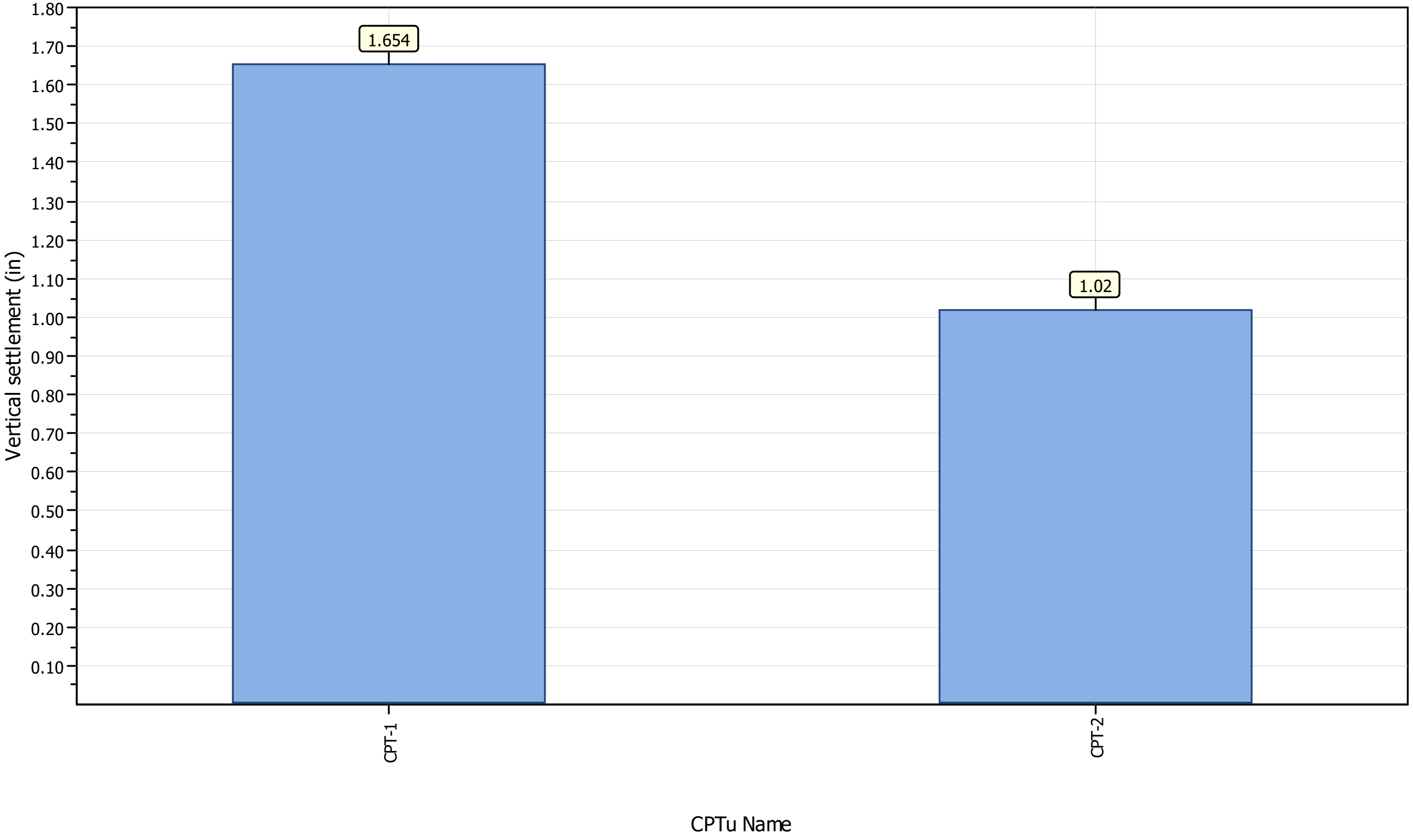
### LPI color scheme

- 🟥 Very high risk
- 🟧 High risk
- 🟨 Low risk

**Project title : Klare Holdings & Its Subsidiary  (File No. 22006)**

**Location : 1628 East 81st Street, Los Angeles, CA**

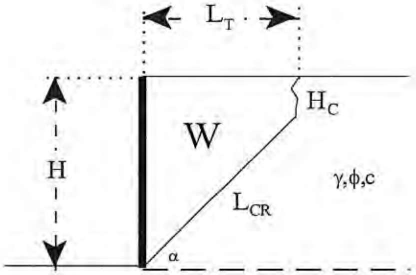
## Liquefaction-Induced Vertical Settlement



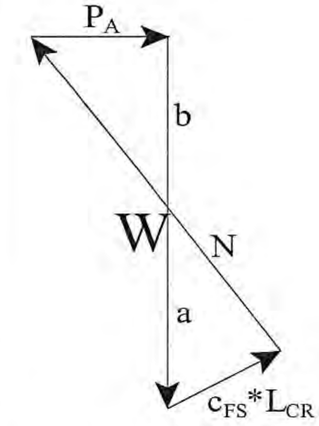
# Retaining Wall Design with Level Backfill
# (Vector Analysis)

Input:

| | | |
|---|---|---|
| Retaining Wall Height | (H) | 12.00 feet |
| Unit Weight of Retained Soils | ($\gamma$) | 120.0 pcf |
| Friction Angle of Retained Soils | ($\phi$) | 35.0 degrees |
| Cohesion of Retained Soils | (c) | 50.0 psf |
| Factor of Safety | (FS) | 1.50 |
| Factored Parameters: | ($\phi_{FS}$) | 25.0 degrees |
| | ($c_{FS}$) | 33.3 psf |



| Failure Angle ($\alpha$) degrees | Height of Tension Crack ($H_C$) feet | Area of Wedge (A) feet$^2$ | Weight of Wedge (W) lbs/lineal foot | Length of Failure Plane ($L_{CR}$) feet | a lbs/lineal foot | b lbs/lineal foot | Active Pressure ($P_A$) lbs/lineal foot |
|---|---|---|---|---|---|---|---|
| 45 | 1.0 | 71 | 8574.9 | 15.5 | 1370.1 | 7204.7 | 2619.0 |
| 46 | 1.0 | 69 | 8284.2 | 15.3 | 1288.8 | 6995.4 | 2682.0 |
| 47 | 1.0 | 67 | 8002.5 | 15.1 | 1215.5 | 6787.0 | 2738.9 |
| 48 | 1.0 | 64 | 7729.3 | 14.9 | 1149.1 | 6580.2 | 2790.0 |
| 49 | 0.9 | 62 | 7464.1 | 14.6 | 1088.9 | 6375.3 | 2835.3 |
| 50 | 0.9 | 60 | 7206.5 | 14.5 | 1034.0 | 6172.6 | 2875.2 |
| 51 | 0.9 | 58 | 6956.0 | 14.3 | 983.8 | 5972.2 | 2909.8 |
| 52 | 0.9 | 56 | 6712.2 | 14.1 | 937.8 | 5774.4 | 2939.2 |
| 53 | 0.9 | 54 | 6474.8 | 13.9 | 895.6 | 5579.2 | 2963.6 |
| 54 | 0.9 | 52 | 6243.3 | 13.7 | 856.7 | 5386.6 | 2983.0 |
| 55 | 0.9 | 50 | 6017.4 | 13.6 | 820.8 | 5196.6 | 2997.4 |
| 56 | 0.9 | 48 | 5796.8 | 13.4 | 787.5 | 5009.3 | 3007.1 |
| 57 | 0.9 | 47 | 5581.2 | 13.3 | 756.7 | 4824.5 | 3011.9 |
| 58 | 0.9 | 45 | 5370.3 | 13.1 | 728.1 | 4642.2 | 3012.0 |
| 59 | 0.9 | 43 | 5163.9 | 13.0 | 701.5 | 4462.4 | 3007.3 |
| 60 | 0.9 | 41 | 4961.6 | 12.8 | 676.7 | 4284.9 | 2997.7 |
| 61 | 0.9 | 40 | 4763.3 | 12.7 | 653.5 | 4109.8 | 2983.4 |
| 62 | 0.9 | 38 | 4568.6 | 12.6 | 631.8 | 3936.8 | 2964.1 |
| 63 | 0.9 | 36 | 4377.5 | 12.5 | 611.4 | 3766.0 | 2939.9 |
| 64 | 0.9 | 35 | 4189.6 | 12.3 | 592.4 | 3597.3 | 2910.6 |
| 65 | 0.9 | 33 | 4004.9 | 12.2 | 574.4 | 3430.5 | 2876.1 |
| 66 | 0.9 | 32 | 3823.0 | 12.1 | 557.5 | 3265.5 | 2836.3 |
| 67 | 1.0 | 30 | 3643.8 | 12.0 | 541.5 | 3102.4 | 2791.1 |
| 68 | 1.0 | 29 | 3467.2 | 11.9 | 526.3 | 2940.9 | 2740.2 |
| 69 | 1.0 | 27 | 3293.0 | 11.8 | 512.0 | 2781.0 | 2683.4 |
| 70 | 1.0 | 26 | 3121.0 | 11.7 | 498.4 | 2622.7 | 2620.5 |



Design Equations (Vector Analysis):

$a = c_{FS}*L_{CR}*\sin(90+\phi_{FS})/\sin(\alpha-\phi_{FS})$

$b = W-a$

$P_A = b*\tan(\alpha-\phi_{FS})$

$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\max}$ 3012.0 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of wall)

$EFP = 2*P_A/H^2$

EFP 41.8 pcf Use 42pcf

**Geotechnologies, Inc.**

Project: Klare
File No.: 22006

| | | |
|---|---|---|
| Soil Weight | $\gamma$ | 120 pcf |
| Internal Friction Angle | $\phi$ | 35 degrees |
| Cohesion | c | 50 psf |
| Height of Retaining Wall | H | 12 feet |

## Cantilever Retaining Wall Design based on At Rest Earth Pressure

$\sigma'_h = K_o \sigma'_v$

$K_o = 1 - \sin\phi$ 0.426

$\sigma'_v = \gamma H$ 1440.0 psf

$\sigma'_h =$ 614.0 psf

EFP = 51.2 pcf

$P_o =$ 3684.3 lbs/ft (based on a triangular distribution of pressure)

Design wall for an EFP of 51.2 pcf Use 52pcf

**Geotechnologies, Inc.**

Project: Klare

File No.: 22006

## Seismically Induced Lateral Soil Pressure on Retaining Wall

**Input:**

| | | |
|---|---|---|
| Height of Retaining Wall: | (H) | 12.0 feet |
| Retained Soil Unit Weight: | ($\gamma$) | 120.0 pcf |
| Horizontal Ground Acceleration: | ($k_h$) | 0.28 g |

**Seismic Increment ($\Delta P_{AE}$):**

$\Delta P_{AE} = (0.5*\gamma*H^2)*(0.75*k_h)$

$\Delta P_{AE} =$ 1814.4 lbs/ft

Force applied at 0.6H above the base of the wall
Transfer load to 2/3 of the height of the wall

$T*(2/3)*H = \Delta P_{AE}*0.6*H$

T = 1633.0 lbs/ft

$EFP = 2*T/H^2$

**EFP = 22.7 pcf** Use 23pcf

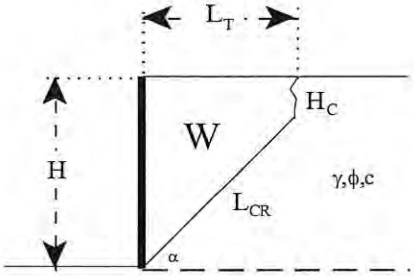
**Geotechnologies, Inc.**

Project: Klare
File No.: 22006
Description: Shoring

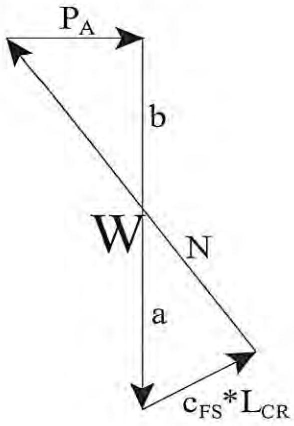
# Shoring Design with Level Backfill
# (Vector Analysis)

Input:

| | | |
|---|---|---|
| Shoring Height | (H) | 15.00 feet |
| Unit Weight of Retained Soils | ($\gamma$) | 120.0 pcf |
| Friction Angle of Retained Soils | ($\phi$) | 35.0 degrees |
| Cohesion of Retained Soils | (c) | 50.0 psf |
| Factor of Safety | (FS) | 1.25 |
| Factored Parameters: | ($\phi_{FS}$) | 29.3 degrees |
| | ($c_{FS}$) | 40.0 psf |



| Failure Angle ($\alpha$) degrees | Height of Tension Crack ($H_C$) feet | Area of Wedge (A) feet$^2$ | Weight of Wedge (W) lbs/lineal foot | Length of Failure Plane ($L_{CR}$) feet | a lbs/lineal foot | b lbs/lineal foot | Active Pressure ($P_A$) lbs/lineal foot |
|---|---|---|---|---|---|---|---|
| 45 | 1.5 | 111 | 13362.2 | 19.1 | 2452.6 | 10909.5 | 3075.6 |
| 46 | 1.5 | 108 | 12914.4 | 18.8 | 2281.2 | 10633.2 | 3199.0 |
| 47 | 1.4 | 104 | 12479.4 | 18.6 | 2129.5 | 10349.9 | 3311.8 |
| 48 | 1.4 | 100 | 12056.6 | 18.4 | 1994.4 | 10062.2 | 3414.5 |
| 49 | 1.3 | 97 | 11645.6 | 18.1 | 1873.6 | 9772.0 | 3507.3 |
| 50 | 1.3 | 94 | 11245.7 | 17.9 | 1765.0 | 9480.7 | 3590.8 |
| 51 | 1.2 | 90 | 10856.5 | 17.7 | 1667.0 | 9189.5 | 3665.1 |
| 52 | 1.2 | 87 | 10477.4 | 17.5 | 1578.3 | 8899.1 | 3730.6 |
| 53 | 1.2 | 84 | 10107.9 | 17.3 | 1497.6 | 8610.3 | 3787.5 |
| 54 | 1.2 | 81 | 9747.4 | 17.1 | 1424.0 | 8323.4 | 3836.1 |
| 55 | 1.2 | 78 | 9395.6 | 16.9 | 1356.8 | 8038.8 | 3876.4 |
| 56 | 1.2 | 75 | 9051.8 | 16.7 | 1295.0 | 7756.8 | 3908.7 |
| 57 | 1.1 | 73 | 8715.7 | 16.5 | 1238.3 | 7477.5 | 3933.1 |
| 58 | 1.1 | 70 | 8386.9 | 16.3 | 1185.9 | 7201.0 | 3949.6 |
| 59 | 1.1 | 67 | 8064.9 | 16.2 | 1137.5 | 6927.4 | 3958.4 |
| 60 | 1.1 | 65 | 7749.4 | 16.0 | 1092.7 | 6656.7 | 3959.3 |
| 61 | 1.1 | 62 | 7439.9 | 15.8 | 1051.1 | 6388.8 | 3952.6 |
| 62 | 1.1 | 59 | 7136.2 | 15.7 | 1012.4 | 6123.8 | 3938.1 |
| 63 | 1.2 | 57 | 6837.9 | 15.5 | 976.3 | 5861.6 | 3915.7 |
| 64 | 1.2 | 55 | 6544.7 | 15.4 | 942.6 | 5602.1 | 3885.4 |
| 65 | 1.2 | 52 | 6256.3 | 15.3 | 911.1 | 5345.2 | 3847.2 |
| 66 | 1.2 | 50 | 5972.4 | 15.1 | 881.5 | 5090.9 | 3800.7 |
| 67 | 1.2 | 47 | 5692.8 | 15.0 | 853.7 | 4839.1 | 3746.0 |
| 68 | 1.2 | 45 | 5417.1 | 14.8 | 827.5 | 4589.5 | 3682.7 |
| 69 | 1.3 | 43 | 5145.1 | 14.7 | 802.8 | 4342.3 | 3610.7 |
| 70 | 1.3 | 41 | 4876.5 | 14.6 | 779.4 | 4097.2 | 3529.6 |



Design Equations (Vector Analysis):

$a = c_{FS}*L_{CR}*\sin(90+\phi_{FS})/\sin(\alpha-\phi_{FS})$

$b = W-a$

$P_A = b*\tan(\alpha-\phi_{FS})$

$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\max}$ 3959.3 | lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of shoring)

$EFP = 2*P_A/H^2$

EFP 35.2 pcf Use 36pcf

**Geotechnologies, Inc.**

## Tiebacks Calculations

(Ref: US Army Corps of Engineers, AMF 88-3)

Project: Klare
File No. 22006

Location: Top Row of Tiebacks

Soil Parameters:

| | | | |
|---|---|---|---|
| Weight of Soil | $\gamma$ | 120.00 | *lbs/ft*$^3$ |
| Friction Angle | $\phi$ | 35.00 | *degrees* |
| Cohesion | c | 50.00 | *lbs/ft*$^2$ |
| Tieback Angle | $\alpha$ | 20.00 | *degrees* |
| Earth Pressure Coefficient | K | 0.50 | |

Design Assumptions:

| | | | |
|---|---|---|---|
| Diameter of Grout | d | 1.00 | *feet* |
| Length of Embeddment | L | 20.00 | *feet* |
| Depth to midpoint of Embeddment | h | 12.00 | *feet* |
| Factor of Safety Applied | F.S. | 1.50 | |
| Normal Stress $(\sigma v+k\sigma v)/2+(\sigma v-k\sigma v)/2*\text{Cos}2\alpha$ | $\sigma n =$ | 1355.78 | |

Ultimate Resistance: $R_{ult}$ 62.79 *kips*

Eq: $pi*d*\gamma*L*\sigma n*\tan(\phi)+c*pi*d*L$

Allowable Resistance: $R_{allow} = R_{ult}/F.S.$ 41.86 *kips*

Allowable Skin Friction: $R_{allow}/2/pi/r/L$ 666.22 *psf*

**Allowable Skin Friction Design Value** **650** ***psf***

**Geotechnologies, Inc.**

Project: Klare
File No.: 22006
Description: Typical Tieback Anchors at 52-68A

## Pressure Grouted Tiebacks (Ref: California Trenching and Shoring Manual. Rev. 12)

**Input:**

| | | |
|---|---|---|
| **$H$** | 15.0 feet | *height of shoring* |
| **$h$** | 8.5 feet | *depth to anchor from top of shoring* |
| **$a$** | 35.0 degrees | *active wedge failiure angle* |
| **$B$** | 20.0 degrees | *installation angle of anchor shaft* |
| **$p_i$** | 300.0 psi | *injection pressure during grouting* |
| **$d_s$** | 6.0 inches | *diameter of anchor (bonded zone)* |
| **$L_s$** | 20.0 feet | *length of anchor shaft of bonded zone* |
| **$\phi_e$** | 26.0 degrees | *effective friction angle between soil and grout* |

$P_u = p_i * \pi * d_s * L_s * \tan\phi_e$

| | |
|---|---|
| **661.9 kips** | **ultimate capacity** |
| **441.3 kips** | **allowable capacity with 1.5 factor of safety** |
| **14.0 ksf** | **allowable skin friction** |
| **14046.7 psf** | **allowable skin friction** |
| ***98.0 kips*** | ***actual design load by shoring consultant*** |
| ***3.1194 ksf*** | ***actual skin friction*** |
| ***3119.4 psf*** | ***actual skin friction*** |

| | | | | | |
|---|---|---|---|---|---|
| DATE DRILLED | 10/2/18 | LOGGED BY | SL | **BORING NO.** | **B-1** |
| DRIVE WEIGHT | 140 lbs. | DROP | 30 inches | DEPTH TO GROUNDWATER (ft.) | N/E |
| DRILLING METHOD | 8" HSA | DRILLER | 2R Drilling | SURFACE ELEVATION (ft.) | 139 ±(MSL) |

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | ADDITIONAL TESTS | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 2" AC over 3" base |
| | | | | | | | GS, R | | SM | **FILL:** Silty SAND; light brown; slightly moist |
| | | | | | | | | | SM | **ALLUVIUM:** Silty SAND; light brown; slightly moist |
| 134 | 5 | | | 13 | 5.4 | 101.0 | | | SM | -- same; medium dense |
| 129 | 10 | | | 9 | | | | | SM | -- same; loose |
| 124 | 15 | | | 28 | 5.0 | 104.9 | | | SP-SM | Poorly graded SAND with silt; medium dense; slightly moist |
| 119 | 20 | | | 30 | | | | | SP | Poorly graded SAND; medium dense; light brown; slightly moist |
| 114 | 25 | | | 49 | 4.9 | 104.4 | | | | |
| 109 | 30 | | | 13 | | | | | ML | Sandy SILT; stiff; dark brown; slight moist |
| | | | | | | | | | | Total Depth = 31.5 feet<br>Backfilled on 10/2/2018<br>Borehole filled with cuttings at completion.<br>Surface patched with asphalt. |
| 104 | 35 | | | | | | | | | |

BORING LOG 180870.1 - KIPP 81ST CHARTER SCHOOL.GPJ TWINING LABS.GDT 11/15/18

TWINING

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

DATE DRILLED 10/2/18
LOGGED BY SL
**BORING NO. B-2**
DRIVE WEIGHT 140 lbs.
DROP 30 inches
DEPTH TO GROUNDWATER (ft.) N/E
DRILLING METHOD 8" HSA
DRILLER 2R Drilling
SURFACE ELEVATION (ft.) 139 ±(MSL)

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 2" AC over 5" base |
| | | | | | | | | SM | **FILL:** Silty SAND; light brown; dry |
| | | | | | | | | SM | **ALLUVIUM:** Silty SAND; light brown; dry |
| 134 | 5 | | | 4 | | | | SM | -- same; loose |
| 129 | 10 | | | 10 | 24.9 | 99.3 | | SM | -- same; medium dense; few clay |
| 124 | 15 | | | 14 | | | | SM | -- same; medium dense; slightly moist |
| 119 | 20 | | | 63 | 3.9 | 110.0 | | SP-SM | Poorly graded SAND with silt; dense; brown; slightly moist |
| 114 | 25 | | | 22 | | | | SP-SM | -- same; medium dense |
| 109 | 30 | | | 25 | | | | SP-SM | -- same; medium dense |
| | | | | | | | | | Total Depth = 31.5 feet<br>Backfilled on 10/2/2018<br>Borehole filled with cuttings at completion.<br>Surface patched with asphalt. |
| 104 | 35 | | | | | | | | |

TWINING

## LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

| | | | | | |
|---|---|---|---|---|---|
| DATE DRILLED | 10/2/18 | LOGGED BY | SL | **BORING NO.** | **B-3** |
| DRIVE WEIGHT | 140 lbs. | DROP | 30 inches | DEPTH TO GROUNDWATER (ft.) | N/E |
| DRILLING METHOD | 8" HSA | DRILLER | 2R Drilling | SURFACE ELEVATION (ft.) | 139 ±(MSL) |

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | ADDITIONAL TESTS | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 3" AC over 5" base |
| | | | | | | | MAX | | SM | Silty SAND; light brown; slightly moist |
| 134 | 5 | | | 14 | 5.6 | 95.8 | | | SM | -- same; medium dense; fine sand |
| | | | | | | | | | | Total Depth = 6.5 feet<br>Backfilled on 10/2/2018<br>Borehole filled with cuttings at completion.<br>Surface patched with asphalt. |
| 129 | 10 | | | | | | | | | |
| 124 | 15 | | | | | | | | | |
| 119 | 20 | | | | | | | | | |
| 114 | 25 | | | | | | | | | |
| 109 | 30 | | | | | | | | | |
| 104 | 35 | | | | | | | | | |

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

DATE DRILLED 10/2/18
LOGGED BY SL
**BORING NO. B-4**
DRIVE WEIGHT 140 lbs.
DROP 30 inches
DEPTH TO GROUNDWATER (ft.) N/E
DRILLING METHOD 8" HSA
DRILLER 2R Drilling
SURFACE ELEVATION (ft.) 139 ±(MSL)

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | ADDITIONAL TESTS | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 3" AC over 5" base |
| | | | | | | | | | SM | **FILL:** Silty SAND; dark brown; slightly moist |
| | | | | | | | | | SM | **ALLUVIUM:** Silty SAND; brown; slightly moist |
| 134 | 5 | | | 12 | 8.3 | 113.8 | GS | | SM | -- same; medium dense |
| 129 | 10 | | | 7 | | | | | SM | -- same; loose; light brown to brown |
| 124 | 15 | | | 31 | 6.5 | 101.2 | C | | SP-SM | Poorly graded SAND with silt; dense; light brown; slightly moist |
| 119 | 20 | | | 26 | | | #200 | | SP-SM | -- same; medium dense |
| 114 | 25 | | | 24 | | | #200 | | SP-SM | -- same; medium dense |
| 109 | 30 | | | 10 | | | #200 | | ML | Sandy SILT; stiff; dark brown; moist; few clay |
| 104 | 35 | | | | | | | | | |

TWINING

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

DATE DRILLED 10/2/18 LOGGED BY SL **BORING NO. B-4**
DRIVE WEIGHT 140 lbs. DROP 30 inches DEPTH TO GROUNDWATER (ft.) N/E
DRILLING METHOD 8" HSA DRILLER 2R Drilling SURFACE ELEVATION (ft.) 139 ±(MSL)

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | ADDITIONAL TESTS | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 15 | | | ATT | | CL | Lean CLAY; stiff; yellow brown; moist |
| 99 | 40 | | | 21 | | | #200 | | SP-SM | Poorly graded SAND with silt; medium dense; light brown; moist |
| 94 | 45 | | | 27 | | | | | SM | Silty SAND; medium dense; brown; moist |
| 89 | 50 | | | 17 | | | #200 | | SM | -- same |
| | | | | | | | | | | Total Depth = 51.5 feet<br>Backfilled on 10/2/2018<br>Borehole filled with cuttings at completion.<br>Surface patched with asphalt. |
| 84 | 55 | | | | | | | | | |
| 79 | 60 | | | | | | | | | |
| 74 | 65 | | | | | | | | | |
| 69 | 70 | | | | | | | | | |

TWINING

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

|  |  |  |  |  |  |
|---|---|---|---|---|---|
| DATE DRILLED | 10/2/18 | LOGGED BY | SL | **BORING NO.** | **B-5** |
| DRIVE WEIGHT | 140 lbs. | DROP | 30 inches | DEPTH TO GROUNDWATER (ft.) | N/E |
| DRILLING METHOD | 8" HSA | DRILLER | 2R Drilling | SURFACE ELEVATION (ft.) | 139 ±(MSL) |

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  | 3" AC over 4" base |
|  |  |  |  |  |  |  |  | SM | **FILL:** Silty SAND; brown; moist |
|  |  |  |  |  |  |  |  | SM | **ALLUVIUM:** Silty SAND; brown; moist; with fine sand |
| 134 | 5 |  | ▯ | 8 |  |  |  | SM | -- same; loose |
| 129 | 10 |  | ☒ | 26 | 12.7 | 103.7 |  | SM | -- same; medium dense; trace clay |
|  |  |  |  |  |  |  |  |  | Total Depth = 11.5 feet<br>Backfilled on 10/2/2018<br>Borehole filled with cuttings at completion.<br>Surface patched with asphalt. |
| 124 | 15 |  |  |  |  |  |  |  |  |
| 119 | 20 |  |  |  |  |  |  |  |  |
| 114 | 25 |  |  |  |  |  |  |  |  |
| 109 | 30 |  |  |  |  |  |  |  |  |
| 104 | 35 |  |  |  |  |  |  |  |  |

TWINING

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

# APPENDIX E-2

## Geotechnical Evaluation Report

TWINING
Engineering a Better Tomorrow

# Geotechnical Evaluation Report

## New KIPP Elementary School Project
## 1628 E. 81st Street
## Los Angeles, California

Prepared for:

Klare Holdings and its Subsidiary
3601 E. 1st Street
Los Angeles, CA 90063

November 15, 2018
Project No.: 180870.1

TWINING

2883 East Spring Street
Suite 300
Long Beach CA 90806

Tel 562.426.3355
Fax 562.426.6424

November 15, 2018
Project No. 180870.1

KLARE Holdings and its Subsidiary
Attn. Kyle Salyer
3601 E. 1st Street
Los Angeles, CA 90063

Subject: Geotechnical Evaluation Report
New KIPP Elementary School Project
1628 E. 81st Street
Los Angeles, California

Dear Mr. Salyer:

In accordance with your request and authorization, Twining, Inc. is pleased to present the results of our geotechnical engineering evaluation for the above referenced KIPP Elementary School Project to be located in Los Angeles, California. The purpose of this investigation has been to evaluate the potential geologic hazards and subsurface conditions at the site and to provide recommendations for the proposed site developments.

Based on our findings, the proposed project is geotechnically feasible, provided that the recommendations in this report are incorporated into the design and are implemented during construction of the project.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding this report or if we can be of further service, please do not hesitate to contact the undersigned.

Respectfully submitted,
**TWINING, INC.**

CHI HSIN LIN
No. 2921
Exp. 9/30/20

Doug Crayton
Staff Engineer

Sean Lin, P.E. 67109, G.E. 2921
Chief Geotechnical Engineer

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## Appendices

## 1. INTRODUCTION

This report presents the results of the geotechnical evaluation performed by Twining, Inc. ("Twining") for the new KIPP Elementary School Project in Los Angeles, California. The objectives of this study were to evaluate the subsurface conditions of the site, perform laboratory testing on samples gathered during the exploration, and to make recommendations for the planned improvements.

## 2. SITE DESCRIPTION

The project site is located at 1628 E. 81st Street, Los Angeles, California. The location of the site is depicted on Figure 1, Site Location Map. The approximate site coordinates are latitude 33.9655°N and longitude 118.2471°W, and the site is located on the South Gate, California 7½-Minute Topographic Quadrangle (United States Geological Survey, 2018). The elevation of the site is approximately 633 feet mean sea level (MSL). The site exhibits low relief and is currently covered by an asphalt concrete parking lot. Drainage across the site is by uncontrolled sheet flow to the adjacent sidewalks and drainage course.

It is our understanding that the proposed project consists of construction new elementary school. No further plans are available at this time. The site and location of the borings performed are shown in Figure 2, Site Plan and Boring Location Map.

## 3. SCOPE OF WORK

To prepare this report, we have performed the following tasks:

### 3.1. Literature Review

We reviewed readily available background data including available previous geotechnical investigation reports, published geologic maps, topographic maps and aerial photos relevant to the subject site in preparation of this report. A partial list of literature reviewed is presented in the "Selected References" section of this report.

### 3.2. Field Exploration

The field exploration consisted of five exploratory borings conducted at the site on October 2, 2018. The borings were advanced to a depth of approximately between 5 feet and 51½ feet below the existing grade. The exploration was performed using a truck-mounted, hollow-stem auger drill rig.

The approximate locations of the borings are shown on Figure 2. Detailed descriptions of the soils encountered during drilling are presented in Appendix A – Field Exploration.

### 3.3. Field Percolation Testing

Two of the borings (B-3 and B-5) was utilized to perform percolation testing to evaluate the infiltration rate. The results of the percolation testing are presented in Appendix C – Percolation Testing.

### 3.4. Geotechnical Laboratory Testing

Laboratory tests were performed on selected samples obtained from the borings to aid in the soil classification and to evaluate the engineering properties of the foundation soils. The following tests were performed in general accordance with ASTM standards:

- In-situ moisture and density;
- Maximum density and optimum moisture;
- Grain size analysis;
- Consolidation testing;
- Corrosivity testing; and
- Direct shear tests.

The detailed laboratory test results are presented in Appendix B – Laboratory Testing.

### 3.5. Engineering Analyses and Report Preparation

We compiled and analyzed the data collected from our site reconnaissance, subsurface evaluation, and laboratory testing, and prepared this report to present our conclusions and recommendations. The analyses included:

- Evaluation of general subsurface conditions and description of types, distribution, and engineering characteristics of subsurface materials;
- Evaluation of geologic hazards, including site seismicity, liquefaction and settlement potential, and preliminary recommendations for appropriate mitigation measures;
- Evaluation of site-specific seismic design parameters in accordance with the 2016 California Building Code;
- Evaluation of current and historical groundwater conditions at the site and potential impact on the existing structures;
- Evaluation of foundation design parameters including soil bearing capacity, lateral resistance, friction coefficient, and seismic considerations;
- Evaluation of the potential for the on-site materials to corrode buried concrete and metals.

## 4. SITE GEOLOGY AND SUBSURFACE CONDITIONS

### 4.1. Regional Geology

According to the Seismic Hazard Zone Report of the South Gate 7.5-minute Quadrangle (California Geological Survey, 1998), the project the site is underlain by younger alluvium (geologic map symbol Qya2). This earth material is composed of “loose to medium dense very coarse- to very fine-grained sand, gravel, and silt that appear to interfinger and grade laterally into each other.” A portion of the geologic map is reproduced as Figure 3, Regional Geologic Map.

### 4.2. Subsurface Earth Materials

The materials encountered during the exploratory excavation consisted of fill and alluvial soil. Fill predominantly consisted of silty sand. The fill encountered in our borings is generally 1- to 2- feet in thickness. The fill thickness may vary across the site. The alluvium consists of predominantly silty sand and with some poorly-graded sand with silt. There is a layer of silt and clay between 30 and

40 feet below ground surface. The material is generally loose in the upper 10 feet and becomes denser with depth.

### 4.3. Groundwater

Groundwater was not encountered within the deepest exploratory boring at a depth of approximately 51.5 feet below the existing ground surface (bgs). Based on our review of the Seismic Hazard Zone report (California Department of Conservation, Division of Mines and Geology, 1998), the historical high groundwater level is reported at approximately 20 feet bgs at the project site. In accordance with the County geotechnical guidelines, we assumed the groundwater is 20 feet bgs for seismic design analysis.

Groundwater conditions may vary across the site due to stratigraphic and hydrologic conditions and may change over time as a consequence of seasonal and meteorological fluctuations, or of activities by humans at this and nearby sites.

## 5. GEOLOGIC HAZARD AND SEISMIC DESIGN CONSIDERATIONS

The site is located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion in the project area is considered high during the design life of the proposed improvements. The hazards associated with seismic activity in the vicinity of the site area discussed in the following sections.

### 5.1. Surface Fault Rupture

The subject site is not located within a State of California Earthquake Fault Zone (formerly known as a Special Studies Zone) (Hart and Bryant, 1997). The nearest active fault is Puente Hills fault, located approximately 1 mile northeast of the site. On the basis of our review of geologic and seismologic literature and our site evaluation, it is our opinion that the likelihood of surface fault rupture at the site during the life of the proposed improvements is low.

### 5.2. Liquefaction and Seismic Settlement Potential

Liquefaction occurs when the pore pressures generated within a soil mass approach the effective overburden pressure. Liquefaction of soils may be caused by cyclic loading such as that imposed by ground shaking during earthquakes. The increase in pore pressure results in a loss of strength, and the soil then can undergo both horizontal and vertical movements, depending on the site conditions. Other phenomena associated with soil liquefaction include sand boils, ground oscillation, and loss of foundation bearing capacity. Liquefaction is generally known to occur in loose, saturated, relatively clean, fine-grained cohesionless soils at depths shallower than approximately 50 feet. Factors to consider in the evaluation of soil liquefaction potential include groundwater conditions, soil type, grain size distribution, relative density, degree of saturation, and both the intensity and duration of ground motion.

The site is located within a state-designated Zone of Required Investigation for Liquefaction (California Geological Survey, 2016). In accordance with the 2016 CBC, we have performed liquefaction analyses using the SPT data obtained from our field exploration. Details of our liquefaction analysis are presented in Appendix D.

We have performed a liquefaction analyses using the hypothetical historical highest groundwater level of 20 feet. The result shows the site is susceptible to liquefaction during a MCE earthquake. The potential liquefiable soil layers are generally at depths between 29 and 35 feet. The hypothetical liquefaction induced settlement is estimated to be on the order of 1.3 inches, with differential settlements less than 0.7 inches over a length of 50 feet. The detailed liquefaction analyses, and results are included in Appendix C, Liquefaction and Seismic Settlement Analyses.

### 5.3. Landslides

The site is not located within an area designated by the State of California as a Zone of Required Investigation for Earthquake-Induced Landslides (California Department of Conservation, Division of Mines and Geology, 1999). It is our opinion that the potential for earthquake-induced landslides to occur at the site is low.

### 5.4. CBC Seismic Design Parameters

Our recommendations for seismic design parameters have been developed in accordance with the 2016 CBC and ASCE 7-10 (ASCE, 2010) standards. Based on the results of our field investigation the applicable Site Class is D consisting of a stiff soil profile. Table 1 presents the seismic design parameters for the site.

**Table 1 – 2016 California Building Code Design Parameters**

| Design Parameters | Value |
|---|---|
| Site Class | D |
| Mapped Spectral Acceleration Parameter at Period of 0.2-Second, $S_s$ | 1.850g |
| Mapped Spectral Acceleration Parameter at Period 1-Second, $S_1$ | 0.660g |
| Site Coefficient, $F_a$ | 1.0 |
| Site Coefficient, $F_v$ | 1.5 |
| Adjusted MCE$_R$[1] Spectral Response Acceleration Parameter, $S_{MS}$ | 1.850g |
| Adjusted MCE$_R$[1] Spectral Response Acceleration Parameter, $S_{M1}$ | 0.991g |
| Design Spectral Response Acceleration Parameter, $S_{DS}$ | 1.233g |
| Design Spectral Response Acceleration Parameter, $S_{D1}$ | 0.660g |
| Peak Ground Acceleration, PGA$_M$[2] | 0.676g |
| Seismic Design Category[3] | D |
| Notes: [1] Risk-Targeted Maximum Considered Earthquake<br>[2] Peak Ground Acceleration adjusted for site effects<br>[3] For $S_1$ greater than or equal to 0.75g, the Seismic Design Category is E | |

In accordance with the USGS Seismic Hazard Interactive Deaggreations webpage http://earthquake.usgs.gov/hazards/interactive/ for the 2 percent in 50 years chance of exceedance earthquake event, the earthquake magnitude, $M_w$= 6.7 is should be considered in seismic design.

## 6. GEOTECHNICAL ENGINEERING RECOMMENDATIONS

### 6.1. General Considerations

Based on the results of our literature review and the field exploration, laboratory testing, and engineering analyses, it is our opinion that the proposed construction is feasible from a geotechnical standpoint, provided that the recommendations in this report are incorporated into the design plans and are implemented during construction.

The following is a list of geotechnical considerations for this project:

- Relatively loose and compressible silty sand was encountered at the site extending from the surface to approximately 5 to 10 feet below the existing ground surface. Under heavy foundation loads, this material will be compressed and cause ground settlement. We recommend a minimum over-excavation of 5 feet from the existing ground surface to mitigate surficial loose soil for structural support.

- Based on the liquefaction analyses using the historical highest groundwater level of 20 feet, the site is susceptible to liquefaction during a MCE earthquake. The potential liquefiable soil layers are generally at depths between 29 and 35 feet. The hypothetical liquefaction induced settlement is estimated to be on the order of 1.0 inches, with differential settlements less than ½ inches over a length of 50 feet. Mitigations are required for liquefaction settlement.

- It is our professional opinion that the static settlement and the hypothetical seismic settlement can be mitigated using shallow foundation connected with grade-beams supported by compacted fill.

- Stormwater BMP infiltration system is considered feasible for the on-site soil within the upper 5 to 10 feet.

- The undocumented fill/disturbed landscape soil is on the order of 2 feet, which is required to be over-excavated and recompacted for slab or structural support.

Our geotechnical engineering analyses performed for this report were based on our literature review and the earth materials encountered during the subsurface exploration for the site. If the design substantially changes, then our geotechnical engineering recommendations would be subject to revision based on our evaluation of the changes. The following sections present our conclusions and recommendations pertaining to the engineering design for this project.

### 6.2. Expansive Soil Evaluation

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from rainfall, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors, and may cause unacceptable settlement or heave of structures, concrete slabs supported on-grade, or pavements supported over these materials. Depending on the extent and location below finished subgrade, these soils could have a detrimental effect on the proposed construction.

Based on our field classification of the near-surface soils, it is our opinion that these exposed soils will have a “very low” expansion potential.

### 6.3. Corrosive Soil Evaluation

The potential for the on-site materials to corrode buried steel and concrete improvements was evaluated. Laboratory testing was performed on one representative sample of on-site soils to evaluate pH and electrical resistivity, as well as chloride and sulfate contents. The pH and electrical resistivity tests were performed in accordance with California Test 643, and the sulfate and chloride tests were performed in accordance with California Tests 417 and 422, respectively. These laboratory test results are presented in Appendix B.

In accordance with the County of Los Angeles (2014) criteria, the corrosive soil is defined when having minimum resistivity less than 1,000 ohm-centimeters, or chloride concentration greater than 500 ppm, or sulfate concentration in soils greater than 2,000 ppm, or a pH less than 5.5.

### 6.3.1. Reinforced Concrete

Laboratory tests indicate that the potential of sulfate attack on concrete in contact with the on-site soils is negligible based on ACI 318, Table 4.3.1. As a minimum, we recommend that Type I or II cement and water-cement ratio of no greater than 0.5 be used on the project.

Test results also indicate that the potential for chloride attack of reinforcing steel in concrete structures and pipes in contact with soil is negligible.

### 6.3.2. Metallic

Laboratory resistivity testing indicates that the on-site soils are not considered corrosive to buried ferrous metals. A corrosion specialist may be consulted regarding suitable types of piping and appropriate protection for underground metal conduits, if needed.

## 6.4. Site Preparation and Earth Work

In general, earthwork should be performed in accordance with the recommendations presented in this report. Twining should be contacted for questions regarding the recommendations or guidelines presented herein.

### 6.4.1. Site Preparation

Site preparation should begin with the removal of utility lines, asphalt, concrete, vegetation, and other deleterious debris from areas to be graded. Tree stumps and roots should be removed to such a depth that organic material is generally not present. Clearing and grubbing should extend to the outside edges of the proposed excavation and fill areas. We recommend that unsuitable materials such as organic matter or oversized material be selectively removed and disposed offsite. The debris and unsuitable material generated during clearing and grubbing should be removed from areas to be graded and disposed at a legal dump site away from the project area.

### 6.4.2. Over-Excavation and Subgrade Preparation

To mitigate surficial loose soil and provide a relatively uniform engineered fill for slab support, overexcavation should be at least 5 feet below the ground surface or 3 feet below proposed bottom of footings, whichever is deeper. The lateral extent of the overexcavation should be at least 5 feet beyond the building footprint, where space is available. Deeper excavations may be required in areas where soft, saturated, or unsuitable materials, for example, tree root balls or undocumented fill are encountered.

Subgrade for pavement and/or sidewalk areas should be overexcavated to a depth of at least 12 inches below the pavement section and recompacted in accordance with Section 6.4.4 of this report. Deeper removals may be required in areas where soft, saturated or unsuitable materials are encountered.

### 6.4.3. Materials for Fill

On-site non-expansive soils with an organic content of less than 3 percent by volume (or 1 percent by weight) are suitable for use as fill. Soil material to be used as fill should not contain contaminated materials, rocks, or lumps over 8 inches in largest dimension, and not more than 40 percent larger than ¾ inch. Utility trench backfill material should not contain rocks or lumps over 3 inches in largest dimension. Larger chunks, if generated during excavation, may be broken into acceptably sized pieces or may be disposed offsite.

Any imported fill material should consist of granular soil having a “very low” expansion potential (that is, expansion index of 20 or less). Import material should also have low corrosion potential (that is, chloride content less than 500 parts per million [ppm], soluble sulfate content of less than 0.1 percent, and pH of 5.5 or higher). Materials to be used as fill should be evaluated by a Twining representative prior to importing or filling.

### 6.4.4. Compacted Fill

Prior to placement of compacted fill, the contractor should request an evaluation of the exposed excavation bottom by Twining. Unless otherwise recommended, the exposed ground surface should then be scarified to a depth of approximately 6 inches and watered or dried, as needed, to achieve generally consistent moisture contents approximate 2 percent above the optimum moisture content. The scarified materials should then be compacted to 90 percent relative compaction in accordance with the latest version of ASTM Test Method D1557.

Compacted fill should be placed in horizontal lifts of approximately 8 inches in loose thickness. Prior to compaction, each lift should be watered or dried as needed to achieve near optimum moisture condition, mixed, and then compacted by mechanical methods, using sheepsfoot rollers, multiple-wheel pneumatic-tired rollers, or other appropriate compacting rollers, to a relative compaction of 90 percent as evaluated by ASTM D1557. Successive lifts should be treated in a like manner until the desired finished grades are achieved. Within pavement areas, the upper 12-inches of subgrade soil should be compacted to 95 percent relative compaction evaluated by ASTM D1557.

### 6.4.5. Temporary Excavations

Temporary excavations for the demolishing, earthwork, footing and utility trench are expected. We anticipate that unsurcharged excavations with vertical side slopes less than 4 feet high will generally be stable; however, some sloughing of cohesionless sandy materials encountered at the site should be expected.

Where the space is available, temporary, unsurcharged excavation sides over 4 feet in height should be sloped no steeper than an inclination of 1H:1V (horizontal:vertical). Where sloped excavations are created, the tops of the slopes should be barricaded so that vehicles and storage loads do not encroach within 10 feet of the top of the excavated slopes. A greater setback may be necessary when considering heavy vehicles, such as concrete trucks and cranes. Twining should be advised of such heavy vehicle loadings so that specific setback requirements can be established. If the temporary construction slopes are to be maintained during the rainy season, berms are recommended to be graded along the tops of the slopes in order to prevent runoff water from entering the excavation and eroding the slope faces.

Excavations shall not undermine the existing adjacent building footings. Where space for sloped excavations is not available, slot-cut or temporary shoring (trench box) may be utilized. For temporary excavations that are less than 6 feet in height adjacent to existing buildings where the excavation extends deeper than the bottom of the existing footing, slot cuts may be utilized. The slots should be no wider than 8 feet and should be excavated in an A-B-C sequence so that there are at least 16 feet spacing between any two excavated slots. The excavated slots should not be left open overnight and should be backfilled on the same day it was excavated before the next set of slots are excavated.

Personnel from Twining should observe the excavations so that any necessary modifications based on variations in the encountered soil conditions can be made. All applicable safety requirements and regulations, including CalOSHA requirements, should be met.

#### 6.4.6.Utility Trench Backfill

Trench excavations to receive backfill shall be free of trash, debris or other unsatisfactory materials at the time of backfill placement. The utility should be bedded with clean sand to at least one foot over the crown. The bedding sand should have a sand equivalent (SE) of 30 or greater. The remainder of trench backfill may be onsite soils compacted to 90 percent of the laboratory maximum dry density as per ASTM Standard D1557.

#### 6.4.7.Rippability

The earth materials underlying the site should be generally excavatable with heavy-duty earthwork equipment in good working condition. Some gravels, cobbles and man-made debris should be anticipated within the fill soils.

#### 6.4.8.Shrinkage/Bulking Due to Compaction

Based on our review of the in-situ soil density data, preliminary volumetric shrinkage on the order of 10 percent as a result of compaction of onsite soil may be assumed.

#### 6.4.9.Excavation Bottom Stability

In general, we anticipate that excavation bottoms of the excavations will be stable and should provide suitable support for the proposed improvements. Unstable bottom conditions may be mitigated by overexcavation of the bottom to suitable depths, and/or replacement with a minimum 6- to 12-inch-thick aggregate base pending the field evaluation. Recommendations for stabilizing excavation bottoms should be based on evaluation in the field by the geotechnical consultant at the time of construction.

#### 6.4.10. Construction Dewatering

Due to the absence of shallow groundwater, dewatering measures are not anticipated to be necessary during excavation operations. If needed, considerations for construction dewatering should include anticipated drawdown, volume of pumping, potential for settlement of nearby structures, and groundwater discharge. Disposal of groundwater should be performed in accordance with guidelines of the Regional Water Quality Control Board.

### 6.5. Shallow Foundations

A shallow foundation system (spread footings and continuous footings) can be used for support of the proposed buildings. Grade beams connecting spread footings, as determined by the structural engineer, can be used if the seismic settlement exceeds the design performance criteria. The recommended geotechnical foundation design parameters are presented in Table 2 below.

**Table 2 – Geotechnical Foundation Design Parameters**

| | |
|---|---|
| **Minimum Footing Dimensions** | • Continuous footings: At least 12 inches in width, and at least 18 inches in depth.<br>• Square footings: At least 24 inches in width and at least 24 inches in depth. |
| **Allowable Bearing Pressure** | • Footings should be supported on compacted fill.<br>• For building foundations with the minimum dimensions shown above, a soil bearing pressure of 2,000 pounds per square foot (psf) can be used.<br>• Bearing capacity can increase 250 psf for each additional foot of width, and 400 psf for each additional foot of depth to a maximum allowable capacity of 4,000 psf.<br>• The allowable bearing values may be increased by one-third for transient live loads from wind or seismic forces. |
| **Estimated Static Settlement** | • Less than 0.5 inch total settlement with differential settlement estimated to be less than 0.25 inch over 50 feet.<br>• The static settlement of the foundation system is expected to occur on initial application of loading. |
| **Estimated Seismic Settlement** | • Differential settlement estimated to be less than 0.5 inch over 50 feet. |
| **Allowable Coefficient of Friction Below Footings** | 0.30 |
| **Unfactored Lateral Passive Resistance** | 300 pcf (equivalent fluid pressure) |

The passive resistance values may be increased by one-third when considering wind or seismic loading.

### 6.6. Ancillary Structure Foundations

For minor light-weight ancillary structures (e.g. trash enclosures, planter walls, etc.), conventional shallow footings can be used, provided that footings are placed on engineered fill prepared per Section 6.4.

For the design of spread footings for other light-weight structures, we recommend the bottom of square or continuous footings be founded at least 12 inches below the proposed ground surface. A minimum footing width of 18 inches is recommended for square footings and 12 inches for continuous footings. The allowable bearing value for footings with above minimum sizes is 1,500 psf for dead plus live load. Based on the allowable net bearing pressures presented above, static settlement is anticipated to be less than 0.5 inch. Differential settlement is expected to be up to one-half of the total settlement over a 30 foot span. Most of the static settlement at the project site is expected to occur immediately after the application of the load.

Resistance to lateral loads can be provided by friction acting at the base of the foundation and by passive earth pressure. A coefficient of friction of 0.30 may be assumed with normal dead load forces. An allowable passive earth pressure of 300 pcf up to a maximum of 3,000 psf may be used for footings. The values of coefficient of friction and allowable passive earth pressure include a factor of safety of 1.5. The passive resistance values may be increased by one-third when considering wind or seismic loading.

## 6.7. Fence Poles and Sign Posts

### 6.7.1. Non-Constrained Ground

The embedment of sign posts in a non-constrained ground surface should be calculated using Equation 18-1 of 2016 CBC (shown below) or a minimum 3 feet below the ground surface, whichever is deeper.

$$d = \frac{A}{2}\left(1 + \sqrt{1 + \frac{4.36h}{A}}\right) \qquad \text{(Equation 18-1 of 2016 CBC)}$$

where:

A = $2.34P/(S_1 * b)$

b = Diameter of round post or footing or diagonal dimension of square post or footing, feet

d = Depth of embedment in earth in feet but not over 12 feet for purpose of computing lateral pressure.

h = Distance in feet from ground surface to point of application of “P”.

P = Applied lateral force in pounds.

$S_1$ = Allowable lateral soil-bearing pressure based on a depth of one-third the depth of embedment in pounds per square foot.

An allowable passive earth pressure of 350 pcf up to a maximum of 3,000 psf may be used for design provided the upper 1 foot of passive resistance is neglected in the structural design.

### 6.7.1. Constrained Ground

The embedment of sign posts in a constrained ground surface, such as rigid floor or pavement, should be calculated using Equation 18-2 of 2016 CBC (shown below) or a minimum 3 feet below the ground surface, whichever is deeper.

$$d = \sqrt{\frac{4.24Ph}{S_3 b}} \qquad \text{(Equation 18-2 of 2016 CBC)}$$

where:

b = Diameter of round post or footing or diagonal dimension of square post or footing, feet

d = Depth of embedment in earth in feet but not over 12 feet for purpose of computing lateral pressure.

h = Distance in feet from ground surface to point of application of “P”.

P = Applied lateral force in pounds.

$S_3$ = Allowable lateral soil-bearing pressure based on a depth of one-third the depth of embedment in pounds per square foot.

### 6.8. Concrete Slabs

Slabs should be supported on compacted fill. For design of concrete slabs, a modulus of subgrade reaction (*k*) of 150 pounds per cubic inch (pci) may be used. For slabs not supporting heavy loads, we recommend that the concrete have a thickness of at least 4 inches. Floor slabs reinforcement and control joints should be designed and constructed in accordance with recommendations from the structural engineer or architect**.** The subgrade below slabs should be prepared as described in section 6.8 “Subgrade Preparation for Concrete Slabs” below.

### 6.9. Subgrade Preparation for Concrete Slabs

All under-slab materials should be adequately compacted prior to the placement of concrete. Care should be taken during placement of the concrete to prevent displacement of the under-slab materials. The granular material should be dry to moist and should not be wetted or saturated prior to the placement of concrete. The concrete slab should be allowed to cure properly prior to placing vinyl or other moisture-sensitive floor covering. Table 3 provides recommendations for various levels of protection against vapor transmission through concrete floor slabs placed over a properly prepared subgrade.

**Table 3 – Options for Subgrade Preparation Below Concrete Floor Slabs**

| Primary Objective | Recommendation |
|---|---|
| **Above-standard protection against vapor transmission** | This option is available if the slab perimeter is bordered by continuous footings at least 24 inches deep, OR if the area adjacent and extending at least 10 feet from the slab is covered by hardscape without planters:<br>• 2 inches of dry silty sand[1]; over<br>• Waterproofing plastic membrane 10 mils in thickness; over<br>• At least 4 inches of ¾-inch crushed rock[2] or clean gravel[3] to act as a capillary break |
| **Standard protection against vapor transmission** | • 2 inches of dry silty sand[1]; over<br>• Waterproofing plastic membrane 10 mils in thickness<br>• If required for either leveling of the subgrade or for protection of the membrane from protruding gravel, place at least 2 inches of silty sand[1] under the membrane. |

Notes:

[1] The silty sand should have a gradation between approximately 15 and 40 percent passing the No. 200 sieve and a plasticity index of less than 4. The on-site sandy soils appear to meet these criteria.

[2] The ¾-inch crushed rock should conform to Section 200-1.2 of the latest edition of the “Greenbook” Standard Specifications for Public Works Construction (Public Works Standards, Inc., 2012).

[3] The gravel should contain less than 10 percent of material passing the No. 4 sieve and less than 3 percent passing the No. 200 sieve.

The recommendations presented above are intended to reduce the potential for cracking of slabs; however, even with the incorporation of the recommendations presented herein, slabs may still exhibit some cracking. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics.

## 6.10. Retaining Walls

Based on the preliminary information provided to us, subterranean basement is not proposed. Therefore, the following recommendations may be used for structural design for short retaining walls less than 6 feet in height for the ancillary structures, where applicable.

### 6.10.1. Lateral Earth Pressure

The values presented below assume that the supported grade is level and do not include surcharge loads. The recommended design lateral earth pressure is calculated assuming that a drainage system will be installed behind the retaining walls and that external hydrostatic pressure will not develop behind the wall.

For walls that are free to rotate at the top (such as cantilevered walls), the lateral earth pressure may be designed for the “active” earth pressure in terms of equivalent fluid pressure (EFP) of 35 pcf. Walls that are supporting earth that are restrained against rotation at the top (such as by a floor deck), may be designed for the “at-rest” earth pressure in terms of EFP of 55 pcf.

### 6.10.2. Backfill and Drainage of Walls

The backfill material behind walls should consist of granular non-expansive material and should be approved by the project geotechnical engineer. Based on the soil materials encountered during our exploration, the majority of on-site soils should meet this requirement. Retaining walls should be waterproofed and adequately drained in order to limit hydrostatic buildup behind walls. The drains should be placed continuously along the backs of the walls and connected to a 4-inch-diameter perforated pipe with perforation facing down. The pipe should be sloped at least 1% and should be surrounded by 1 cubic foot per foot of ¾-inch crushed rock wrapped in suitable non-woven filter fabric (Mirafi® 140NL or equivalent). The drains should discharge through solid pipes to appropriate outlets or weep holes. Weep holes should be not less than 3-inches in diameter and be installed with spacing no greater 10 feet on center.

## 6.11. Flexible Pavement Design

Our pavement structural design is in accordance with Chapter 600 of the Caltrans Highway Design Manual, which is based on a relationship between the gravel equivalent (GE) of the pavement structural materials, the traffic index (TI), and the R-value of the underlying subgrade soil. We used R-value of 50 (maximum design R-value per Caltrans) for the subgrade and assumed TI values for our asphalt pavement structural calculations. On this basis, Table 4 provides recommended minimum thicknesses for hot mix asphalt (HMA) and aggregate base sections for different traffic indices.

The asphalt pavement section should be constructed on top of properly prepared subgrade and aggregate base section compacted to 95 percent of the maximum dry density in accordance with ASTM D1557.

**Table 4 – Recommended Minimum HMA and Base Section Thicknesses**

| **Location** | **Light Vehicle Parking** | **Firelane / Truck Drive Way** |
|---|---|---|
| **Traffic Index** | **5.0** | **7.0** |
| HMA Thickness (in) | 3.0 | 4.0 |
| Aggregate Base Thickness (in) | 4.0 | 4.5 |

### 6.12. Rigid Pavement Design

Table 5 provides minimum thicknesses for Portland Cement Concrete (PCC) pavement sections constructed on top of properly prepared subgrade and aggregate base section compacted to 95 percent of the maximum dry density in accordance with ASTM D1557.

**Table 5 – Recommended Minimum PCC Section Thicknesses**

| **Location** | **Light Vehicular Parking** | **Firelane / Truck Drive Way** |
|---|---|---|
| **Traffic Index** | **5.0** | **7.0** |
| PCC Thickness (in) | 6.0 | 6.5 |
| Aggregate Base Thickness (in) | 3.0 | 3.0 |

The above pavement section is based on a minimum 28-day Modulus of Rupture (M-R) of 550 psi and a compressive strength of 3,000 psi. Transverse contraction joints should not be spaced more than 15 feet and should be cut to a depth of ¼ the thickness of the slab. Longitudinal joints should not be spaced more than 15 feet apart, however, are not necessary in the pavement adjacent to the curb and gutter section. Positive drainage should be provided away from all pavement areas to prevent seepage of surface and/or subsurface water into the pavement base and/or subgrade. The subgrade surface should be scarified to a depth of approximately 6 inches and watered or dried, as needed, to achieve generally consistent moisture contents at or near the optimum moisture content. The scarified materials should then be compacted to 95 percent relative compaction in accordance with the ASTM Test Method D1557.

### 6.13. Drainage Control

The control of surface water is essential to the satisfactory performance of the structures and other site improvements. Surface water should be controlled so that conditions of uniform moisture are maintained beneath the improvements, even during periods of heavy rainfall. The following recommendations are considered minimal:

- Ponding and areas of low flow gradients should be avoided.
- The unpaved areas should be provided with a drainage gradient of at least 2 percent.
- Positive drainage devices, such as graded swales, paved ditches, and/or catch basins should be employed to accumulate and to convey water to appropriate discharge points.
- Concrete walks and flatwork should not obstruct the free flow of surface water.

- Area drains should be recessed below grade to allow free flow of water into the basin.
- Planting areas at grade should be provided with positive drainage. Wherever possible, the grade of exposed soil areas should be established above adjacent paved grades. Drainage devices and curbing should be provided to prevent runoff from adjacent pavement or walks into planted areas.
- Landscape watering should be performed judiciously to preclude either soaking or desiccation of soils. The watering should be such that it just sustains plant growth without excessive watering. Sprinkler systems should be checked periodically to detect leakage and they should be turned off during the rainy season.
- Surface drainage devices should be periodically inspected and cleaned to maintain proper function.

### 6.14. Stormwater Quality Control Measures Recommendations

Based on the results of our field percolation testing at depth of 5 feet presented in Appendix C, it is our opinion that the infiltration BMP system is feasible from a geotechnical standpoint, provided that the recommendations in this report are incorporated into the design plans and are implemented during construction. The following are our conclusions and recommendations:

- The infiltration BMP system can be designed using the recommended infiltration rates presented in Appendix C.
- Stormwater infiltration shall be set back at least 15 feet, and outside a 1:1 plane drawn up from the bottom of adjacent foundations.
- Stormwater infiltration shall not be located near utility lines where the introduction of stormwater could cause damage to utilities or settlement of trench backfill.
- Stormwater infiltration is not allowed within 100 feet of any groundwater production wells used for drinking water.
- The infiltration system shall be located at least 15 feet away from any existing and proposed building foundations.

## 7. DESIGN REVIEW AND CONSTRUCTION MONITORING

Geotechnical review of plans and specifications is of paramount importance in engineering practice. The poor performance of many structures has been attributed to inadequate geotechnical review of construction documents. Additionally, observation and testing of the subgrade will be important to the performance of the proposed development. The following sections present our recommendations relative to the review of construction documents and the monitoring of construction activities.

### 7.1. Plans and Specifications

The design plans and specifications should be reviewed by Twining, Inc. prior to bidding and construction, as the geotechnical recommendations may need to be reevaluated in the light of the actual design configuration and loads. This review is necessary to evaluate whether the recommendations contained in this report and future reports have been properly incorporated into the project plans and specifications. Based on the work already performed, this office is best qualified to provide such review.

### 7.2. Construction Monitoring

Site preparation, removal of unsuitable soils, assessment of imported fill materials, fill placement, foundation installation, and other site grading operations should be observed and tested, as appropriate. The substrata exposed during the construction may differ from that encountered in the test excavations. Continuous observation by a representative of Twining, Inc. during construction allows for evaluation of the soil conditions as they are encountered, and allows the opportunity to recommend appropriate revisions where necessary.

## 8. SECTION 111 STATEMENT

Based on the results of our field exploration, laboratory testing, and engineering analyses, it is our opinion that the proposed improvements as discussed herein will not be adversely impacted by geologic hazards associated with landslides, settlement, or slippage, provided the recommendations presented herein are incorporated into the design plans and are implemented during construction. Based on our evaluation, the proposed improvements and grading as presented herein will not adversely impact adjacent properties, provided our recommendations are followed.

Section 111 of the Los Angeles County Code does not precisely define a settlement hazard. Therefore, for the subject project, Twining defines a hazard from settlement beneath buildings as settlement in excess of the magnitudes estimated in our report.

## 9. LIMITATIONS

The recommendations and opinions expressed in this report are based on Twining, Inc.'s review of available background documents, on information obtained from field explorations, and on laboratory testing. It should be noted that this study did not evaluate the possible presence of hazardous materials on any portion of the site. In the event that any of our recommendations conflict with recommendations provided by other design professionals, we should be contacted to aid in resolving the discrepancy.

Due to the limited nature of our field explorations, conditions not observed and described in this report may be present on the site. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation and laboratory testing can be performed upon request. It should be understood that conditions different from those anticipated in this report may be encountered during grading operations, for example, the extent of removal of unsuitable soil, and that additional effort may be required to mitigate them.

Site conditions, including groundwater elevation, can change with time as a result of natural processes or the activities of man at the subject site or at nearby sites. Changes to the applicable laws, regulations, codes, and standards of practice may occur as a result of government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Twining, Inc. has no control.

Twining's recommendations for this site are, to a high degree, dependent upon appropriate quality control of subgrade preparation, fill placement, and foundation construction. Accordingly, the recommendations are made contingent upon the opportunity for Twining to observe grading operations and foundation excavations for the proposed construction. If parties other than Twining are engaged to provide such services, such parties must be notified that they will be required to assume complete responsibility as the geotechnical engineer of record for the geotechnical phase of the project by concurring with the recommendations in this report and/or by providing alternative recommendations.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Twining should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report has been prepared for the exclusive use by the client and its agents for specific application to the proposed project. Land use, site conditions, or other factors may change over time, and additional work may be required with the passage of time. Based on the intended use of this report and the nature of the new project, Twining may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the Client or anyone else will release Twining from any liability resulting from the use of this report by any unauthorized party.

Twining performed its evaluation using the degree of care and skill ordinarily exercised under similar circumstances by reputable geotechnical professionals with experience in this area in similar soil conditions. No other warranty, either express or implied, is made as to the conclusions and recommendations contained in this report.

## 10. SELECTED REFERENCES

American Society of Civil Engineers, 2011, Minimum Design Loads for Buildings and Other Structures: ASCE Standard ASCE/SEI 7-10, 608 pp.

ASTM, 2013, "Soil and Rock: American Society for Testing and Materials," vol. 4.08 for ASTM test methods D-420 to D-4914; and vol. 4.09 for ASTM test methods D-4943 to highest number.

California Geological Survey, 2008, Guidelines for Evaluation and Mitigation of Seismic Hazards in California: Special Publication 117A, 98 pp.

California Department of Conservation, Division of Mines and Geology, 1998, Seismic Hazard Evaluation of the South Gate 7.5-Minute Quadrangle, Los Angeles County, California: Seismic Hazard Zone Report 034, 29 pp. plus 2 plates.

California Department of Conservation, Division of Mines and Geology, 1999, State of California Seismic Hazard Zones, South Gate Quadrangle, Official Map, dated March 25, scale 1:24,000.

Jennings, C.W., and Bryant, W.A., 2010, Fault activity map of California: California Geological Survey Geologic Data Map No. 6, scale 1:750,000.

United States Geological Survey, 2018, South Gate, Calif. Quadrangle: 7.5 Minute Series (Topographic), scale 1:24,000.

TWINING

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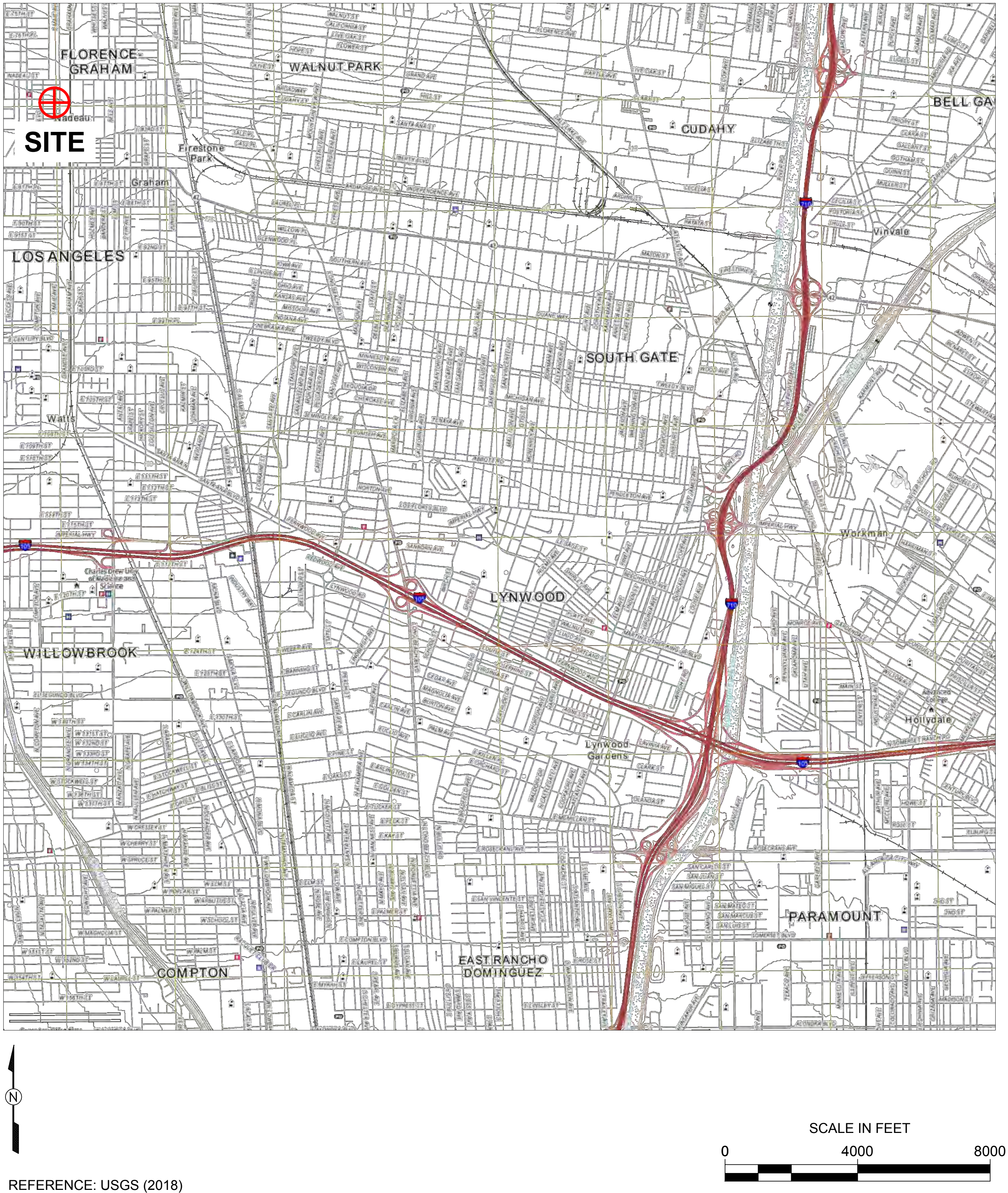
# FIGURES



REFERENCE: USGS (2018)

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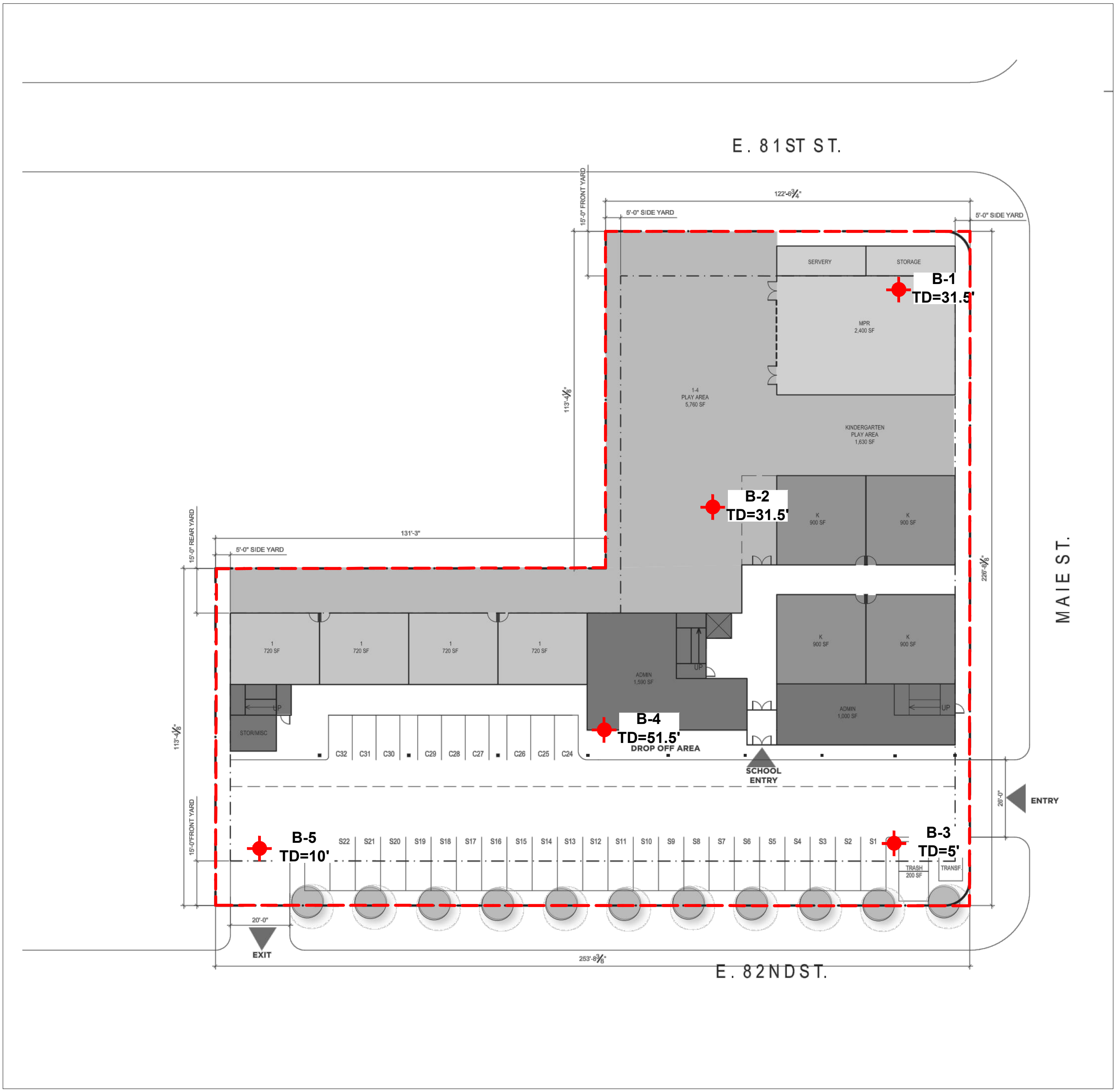
## SITE LOCATION MAP

KIPP ELEMENTARY SCHOOL
1628 E. 81ST STREET
LOS ANGELES, CA

| PROJECT NO. | REPORT DATE | FIGURE 1 |
|---|---|---|
| 180870.1 | October 2018 | |



## LEGEND

| | |
|---|---|
| **B-1**<br>**TD=31.5'** | APPROXIMATE LOCATION OF<br>BORING BY TWINING<br>TOTAL DEPTH IN FEET |
| ‒ ‒ ‒ ‒ | APPROXIMATE PROPERTY<br>BOUNDARY |

SCALE IN FEET

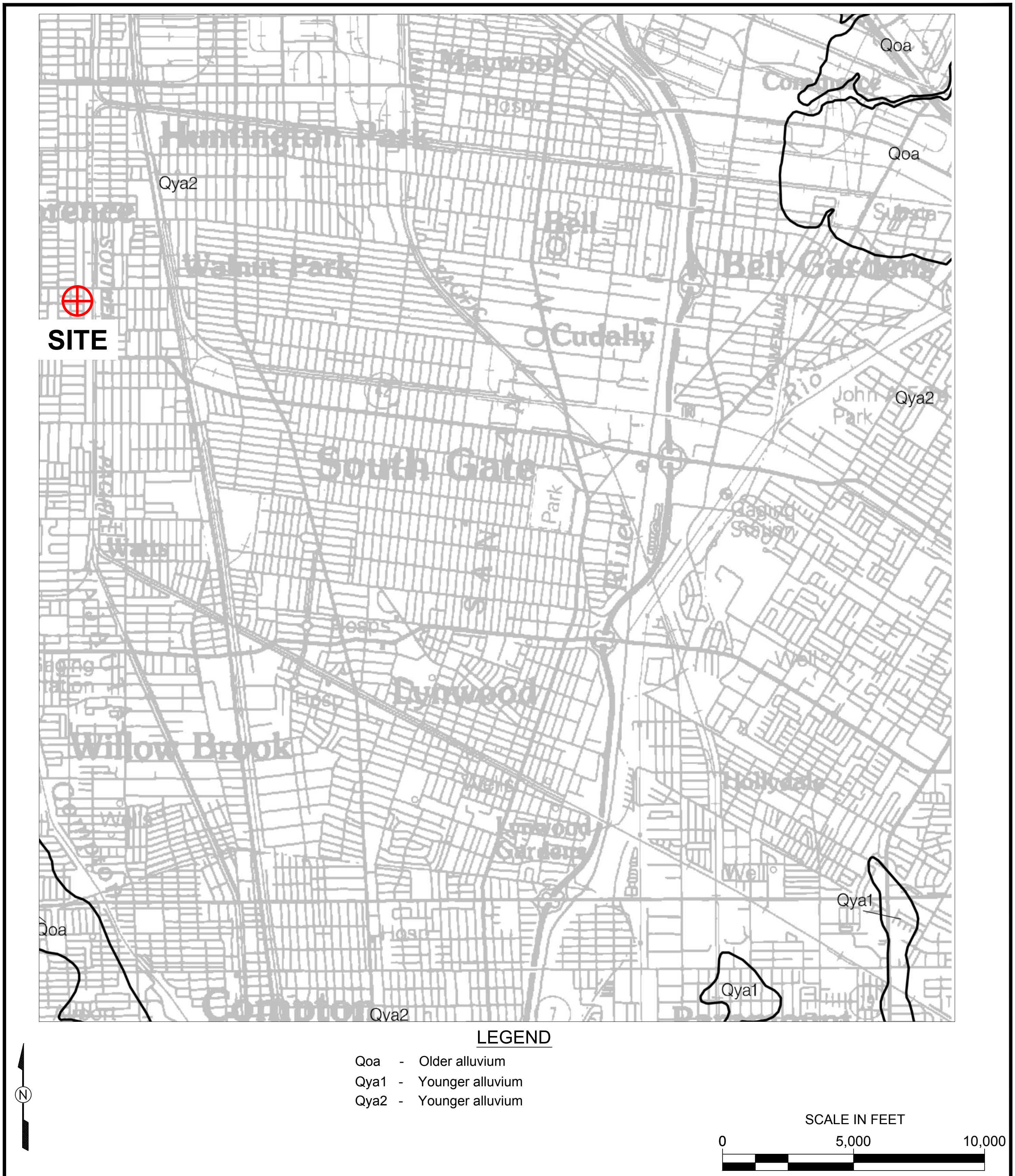
0 50 100

TWINING

## SITE PLAN AND BORING LOCATION MAP

KIPP ELEMENTARY SCHOOL
1628 E. 81ST STREET
LOS ANGELES, CA

| PROJECT NO. | REPORT DATE | FIGURE 2 |
|---|---|---|
| 180870.1 | November 2018 | |



LEGEND

Qoa - Older alluvium
Qya1 - Younger alluvium
Qya2 - Younger alluvium

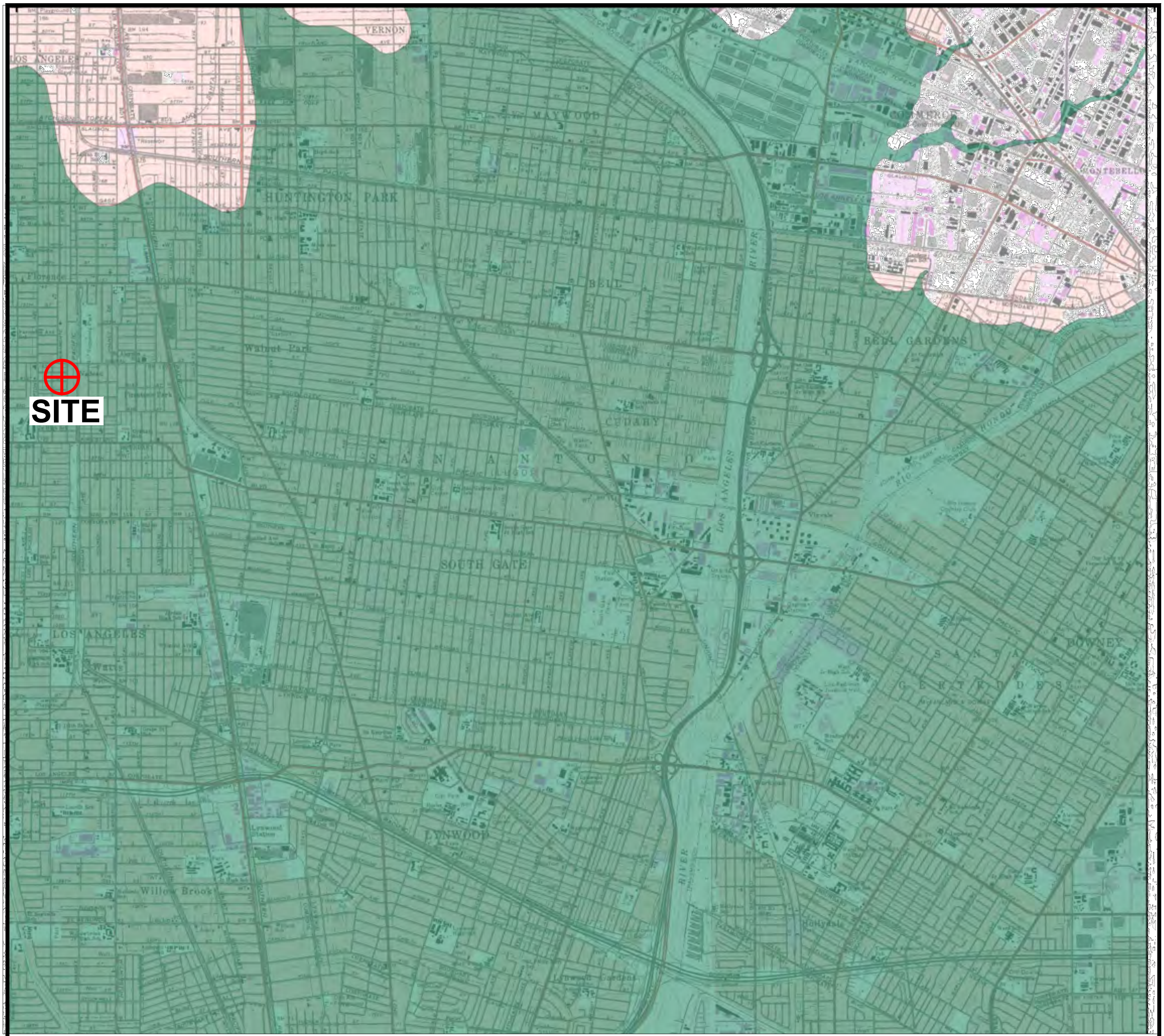
REFERENCE: DEPARTMENT OF CONSERVATION (1998)

**TWINING**

## REGIONAL GEOLOGIC MAP

KIPP ELEMENTARY SCHOOL
1628 E. 81ST STREET
LOS ANGELES, CA

| PROJECT NO. | REPORT DATE | FIGURE 3 |
|---|---|---|
| 180870.1 | November 2018 | |



## MAP EXPLANATION

### ALQUIST-PRIOLO EARTHQUAKE FAULT ZONES

🟨 **Earthquake Fault Zones**
Zone boundaries are delineated by straight-line segments; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.

**Active Fault Traces**
Faults considered to have been active during Holocene time and to have potential for surface rupture: Solid Line in Black or Red where Accurately Located; Long Dash in Black or Solid Line in Purple where Approximately Located; Short Dash in Black or Solid Line in Orange where Inferred; Dotted Line in Black or Solid Line in Rose where Concealed; Query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by fault creep.

1906 C ?

### SEISMIC HAZARD ZONES

**Liquefaction Zones**
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

**Earthquake-Induced Landslide Zones**
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

N

0 5000 10000

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# LIQUEFACTION POTENTIAL MAP

KIPP ELEMENTARY SCHOOL
1628 E. 81ST STREET
LOS ANGELES, CA

PROJECT NO.
180870.1

REPORT DATE
November 2018

FIGURE 4

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# APPENDIX A
# FIELD EXPLORATION

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# Appendix A
# Field Exploration

## General

The subsurface exploration program for the proposed project consisted of drilling and logging five exploratory borings at the site on October 2, 2018. The borings were advanced to a maximum depth between 5 and 51½ feet. The drilling operation was performed using a truck-mounted CME-75 hollow-stem-auger drill rig and a hand auger by 2R Drilling of Chino, California.

## Drilling and Sampling

The Boring Logs are presented as Figures A-2 through A-6. An explanation of these logs is presented as Figure A-1. The Boring Logs describe the earth materials encountered, samples obtained, and show the field and laboratory tests performed. The log also shows the boring number, drilling date, and the name of the logger and drilling subcontractor. The borings were logged by an engineer using the Unified Soil Classification System. The boundaries between soil types shown on the logs are approximate because the transition between different soil layers may be gradual. Drive and bulk samples of representative earth materials were obtained from the borings.

Disturbed samples were obtained using a Standard Penetration Sampler (SPT). This sampler consists of a 2-inch O.D., 1.4-inch I.D. split barrel shaft that is advanced into the soil at the bottom of the drilled hole a total of 18 inches. The number of blows required to drive the sampler the final 12 inches is presented on the boring logs. Soil samples obtained by the SPT were retained in plastic bags.

A California modified sampler was used to obtain drive samples of the soil encountered. This sampler consists of a 3-inch outside diameter (O.D.), 2.4-inch inside diameter (I.D.) split barrel shaft that was driven a total of 12-inches into the soil at the bottom of the boring by a safety hammer weighing 140 pounds at a drop height of approximately 30 inches. The soil was retained in brass rings for laboratory testing. Additional soil from each drive remaining in the cutting shoe was usually discarded after visually classifying the soil. The number of blows required to drive the sampler the final 12 inches is presented on the boring logs.

Upon completion of the borings, the boreholes were backfilled with soil from the cuttings and patched with asphalt patch where needed.

## UNIFIED SOIL CLASSIFICATION CHART

| MAJOR DIVISIONS | | | SYMBOLS | | TYPICAL DESCRIPTIONS |
|---|---|---|---|---|---|
| | | | GRAPH | LETTER | |
| **COARSE GRAINED SOILS**<br>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE | **GRAVEL AND GRAVELLY SOILS**<br>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE | **CLEAN GRAVELS**<br>(LITTLE OR NO FINES) | ● | GW | WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | | ○ | GP | POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | **GRAVELS WITH FINES**<br>(APPRECIABLE AMOUNT OF FINES) | ○ | GM | SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES |
| | | | ▨ | GC | CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES |
| | **SAND AND SANDY SOILS**<br>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE | **CLEAN SANDS**<br>(LITTLE OR NO FINES) | ∴ | SW | WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES |
| | | | ⁘ | SP | POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES |
| | | **SANDS WITH FINES**<br>(APPRECIABLE AMOUNT OF FINES) | ⁘ | SM | SILTY SANDS, SAND - SILT MIXTURES |
| | | | ▨ | SC | CLAYEY SANDS, SAND - CLAY MIXTURES |
| **FINE GRAINED SOILS**<br>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE | **SILTS AND CLAYS** | LIQUID LIMIT LESS THAN 50 | ▥ | ML | INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY |
| | | | ▨ | CL | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS |
| | | | ═ | OL | ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY |
| | **SILTS AND CLAYS** | LIQUID LIMIT GREATER THAN 50 | ▥ | MH | INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS |
| | | | ▨ | CH | INORGANIC CLAYS OF HIGH PLASTICITY |
| | | | ≈ | OH | ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS |
| **HIGHLY ORGANIC SOILS** | | | ⁂ | PT | PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS |

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

| **COARSE-GRAINED SOILS** | | | **FINE-GRAINED SOILS** | |
|---|---|---|---|---|
| **Relative Density** | **SPT (blows/ft)** | **Relative Density (%)** | **Consistency** | **SPT (blows/ft)** |
| Very Loose | <4 | 0 - 15 | Very Soft | <2 |
| Loose | 4 - 10 | 15 - 35 | Soft | 2 - 4 |
| Medium Dense | 10 - 30 | 35 - 65 | Medium Stiff | 4 - 8 |
| Dense | 30 - 50 | 65 - 85 | Stiff | 8 - 15 |
| Very Dense | >50 | 85 - 100 | Very Stiff | 15 - 30 |
| | | | Hard | >30 |

*NOTE: SPT blow counts based on 140 lb. hammer falling 30 inches*

| **Sample Symbol** | **Sample Type** | **Description** |
|---|---|---|
| ◫ | SPT | 1.4 in I.D., 2.0 in. O.D. driven sampler |
| ⊠ | California Modified | 2.4 in. I.D., 3.0 in. O.D. driven sampler |
| ⧄ | Bulk | Retrieved from soil cuttings |
| ▯ | Thin-Walled Tube | Pitcher or Shelby Tube |

## LABORATORY TESTING ABBREVIATIONS

| | |
|---|---|
| ATT | Atterberg Limits |
| C | Consolidation |
| CORR | Corrosivity Series |
| DS | Direct Shear |
| EI | Expansion Index |
| GS | Grain Size Distribution |
| K | Permeability |
| MAX | Moisture/Density (Modified Proctor) |
| O | Organic Content |
| RV | Resistance Value |
| SE | Sand Equivalent |
| SG | Specific Gravity |
| TX | Triaxial Compression |
| UC | Unconfined Compression |

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# EXPLANATION FOR LOG OF BORINGS

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A-1 |

DATE DRILLED 10/2/18
LOGGED BY SL
**BORING NO. B-1**
DRIVE WEIGHT 140 lbs.
DROP 30 inches
DEPTH TO GROUNDWATER (ft.) N/E
DRILLING METHOD 8" HSA
DRILLER 2R Drilling
SURFACE ELEVATION (ft.) 139 ±(MSL)

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | ADDITIONAL TESTS | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 2" AC over 3" base |
| | | | | | | | GS, R | | SM | **FILL:** Silty SAND; light brown; slightly moist |
| | | | | | | | | | SM | **ALLUVIUM:** Silty SAND; light brown; slightly moist |
| 134 | 5 | | | 13 | 5.4 | 101.0 | | | SM | -- same; medium dense |
| 129 | 10 | | | 9 | | | | | SM | -- same; loose |
| 124 | 15 | | | 28 | 5.0 | 104.9 | | | SP-SM | Poorly graded SAND with silt; medium dense; slightly moist |
| 119 | 20 | | | 30 | | | | | SP | Poorly graded SAND; medium dense; light brown; slightly moist |
| 114 | 25 | | | 49 | 4.9 | 104.4 | | | | |
| 109 | 30 | | | 13 | | | | | ML | Sandy SILT; stiff; dark brown; slight moist |
| | | | | | | | | | | Total Depth = 31.5 feet<br>Backfilled on 10/2/2018<br>Borehole filled with cuttings at completion.<br>Surface patched with asphalt. |
| 104 | 35 | | | | | | | | | |

TWINING

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

DATE DRILLED 10/2/18
LOGGED BY SL
**BORING NO. B-2**
DRIVE WEIGHT 140 lbs.
DROP 30 inches
DEPTH TO GROUNDWATER (ft.) N/E
DRILLING METHOD 8" HSA
DRILLER 2R Drilling
SURFACE ELEVATION (ft.) 139 ±(MSL)

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 2" AC over 5" base |
| | | | | | | | | SM | **FILL:** Silty SAND; light brown; dry |
| | | | | | | | | SM | **ALLUVIUM:** Silty SAND; light brown; dry |
| 134 | 5 | | ▯ | 4 | | | | SM | -- same; loose |
| 129 | 10 | | ☒ | 10 | 24.9 | 99.3 | | SM | -- same; medium dense; few clay |
| 124 | 15 | | ▯ | 14 | | | | SM | -- same; medium dense; slightly moist |
| 119 | 20 | | ☒ | 63 | 3.9 | 110.0 | | SP-SM | Poorly graded SAND with silt; dense; brown; slightly moist |
| 114 | 25 | | ▯ | 22 | | | | SP-SM | -- same; medium dense |
| 109 | 30 | | ☒ | 25 | | | | SP-SM | -- same; medium dense |
| | | | | | | | | | Total Depth = 31.5 feet<br>Backfilled on 10/2/2018<br>Borehole filled with cuttings at completion.<br>Surface patched with asphalt. |
| 104 | 35 | | | | | | | | |

TWINING

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

DATE DRILLED 10/2/18
LOGGED BY SL
**BORING NO. B-3**
DRIVE WEIGHT 140 lbs.
DROP 30 inches
DEPTH TO GROUNDWATER (ft.) N/E
DRILLING METHOD 8" HSA
DRILLER 2R Drilling
SURFACE ELEVATION (ft.) 139 ±(MSL)

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | ADDITIONAL TESTS | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | ■ | | 3" AC over 5" base |
| | | ╱ | | | | | MAX | | SM | Silty SAND; light brown; slightly moist |
| 134 | 5 | | ☒ | 14 | 5.6 | 95.8 | | | SM | -- same; medium dense; fine sand |
| | | | | | | | | | | Total Depth = 6.5 feet<br>Backfilled on 10/2/2018<br>Borehole filled with cuttings at completion.<br>Surface patched with asphalt. |
| 129 | 10 | | | | | | | | | |
| 124 | 15 | | | | | | | | | |
| 119 | 20 | | | | | | | | | |
| 114 | 25 | | | | | | | | | |
| 109 | 30 | | | | | | | | | |
| 104 | 35 | | | | | | | | | |

TWINING

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

| | | | | | |
|---|---|---|---|---|---|
| DATE DRILLED | 10/2/18 | LOGGED BY | SL | **BORING NO.** | **B-4** |
| DRIVE WEIGHT | 140 lbs. | DROP | 30 inches | DEPTH TO GROUNDWATER (ft.) | N/E |
| DRILLING METHOD | 8" HSA | DRILLER | 2R Drilling | SURFACE ELEVATION (ft.) | 139 ±(MSL) |

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | ADDITIONAL TESTS | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 3" AC over 5" base |
| | | | | | | | | | SM | **FILL:** Silty SAND; dark brown; slightly moist |
| | | | | | | | | | SM | **ALLUVIUM:** Silty SAND; brown; slightly moist |
| 134 | 5 | | ☒ | 12 | 8.3 | 113.8 | GS | | SM | -- same; medium dense |
| 129 | 10 | | ▯ | 7 | | | | | SM | -- same; loose; light brown to brown |
| 124 | 15 | | ☒ | 31 | 6.5 | 101.2 | C | | SP-SM | Poorly graded SAND with silt; dense; light brown; slightly moist |
| 119 | 20 | | ▯ | 26 | | | #200 | | SP-SM | -- same; medium dense |
| 114 | 25 | | ▯ | 24 | | | #200 | | SP-SM | -- same; medium dense |
| 109 | 30 | | ▯ | 10 | | | #200 | | ML | Sandy SILT; stiff; dark brown; moist; few clay |
| 104 | 35 | | | | | | | | | |

TWINING

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

DATE DRILLED 10/2/18 LOGGED BY SL **BORING NO. B-4**
DRIVE WEIGHT 140 lbs. DROP 30 inches DEPTH TO GROUNDWATER (ft.) N/E
DRILLING METHOD 8" HSA DRILLER 2R Drilling SURFACE ELEVATION (ft.) 139 ±(MSL)

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | ADDITIONAL TESTS | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ▯ | 15 | | | ATT | ▨ | CL | Lean CLAY; stiff; yellow brown; moist |
| 99 | 40 | | ▯ | 21 | | | #200 | ░ | SP-SM | Poorly graded SAND with silt; medium dense; light brown; moist |
| 94 | 45 | | ▯ | 27 | | | | ░ | SM | Silty SAND; medium dense; brown; moist |
| 89 | 50 | | ▯ | 17 | | | #200 | ░ | SM | -- same |
| | | | | | | | | | | Total Depth = 51.5 feet<br>Backfilled on 10/2/2018<br>Borehole filled with cuttings at completion.<br>Surface patched with asphalt. |
| 84 | 55 | | | | | | | | | |
| 79 | 60 | | | | | | | | | |
| 74 | 65 | | | | | | | | | |
| 69 | 70 | | | | | | | | | |

TWINING

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE A - 2 |

DATE DRILLED 10/2/18
LOGGED BY SL
**BORING NO. B-5**
DRIVE WEIGHT 140 lbs.
DROP 30 inches
DEPTH TO GROUNDWATER (ft.) N/E
DRILLING METHOD 8" HSA
DRILLER 2R Drilling
SURFACE ELEVATION (ft.) 139 ±(MSL)

| ELEVATION (feet) | DEPTH (feet) | SAMPLES Bulk | SAMPLES Driven | BLOWS / FOOT | MOISTURE (%) | DRY DENSITY (pcf) | GRAPHIC LOG | U.S.C.S. CLASSIFICATION | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 3" AC over 4" base |
| | | | | | | | | SM | **FILL:** Silty SAND; brown; moist |
| | | | | | | | | SM | **ALLUVIUM:** Silty SAND; brown; moist; with fine sand |
| 134 | 5 | | | 8 | | | | SM | -- same; loose |
| 129 | 10 | | | 26 | 12.7 | 103.7 | | SM | -- same; medium dense; trace clay |
| | | | | | | | | | Total Depth = 11.5 feet<br>Backfilled on 10/2/2018<br>Borehole filled with cuttings at completion.<br>Surface patched with asphalt. |
| 124 | 15 | | | | | | | | |
| 119 | 20 | | | | | | | | |
| 114 | 25 | | | | | | | | |
| 109 | 30 | | | | | | | | |
| 104 | 35 | | | | | | | | |

TWINING

# LOG OF BORING

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

PROJECT NO. 180870.1
REPORT DATE November 2018
FIGURE A - 2

TWINING

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# APPENDIX B
# LABORATORY TESTING

# Appendix B
# Laboratory Testing

## Laboratory Moisture Content and Density Tests

The moisture content and dry densities of selected driven samples obtained from the exploratory borings were evaluated in general accordance with the latest version of ASTM D 2937. The results are shown on the boring logs in Appendix A.

## Sieve Analyses

The grain size distribution of the soil samples was evaluated by sieve analyses. The test procedure was performed in general accordance with ASTM C136. The results are presented in Figures B-1 and B-2.

## Wash Sieve

The amount of fines passing the No. 200 sieve were evaluated in accordance with ASTM D 1140. The results are presented in Table B-1.

## Atterberg Limits

Liquid limit, plastic limit and plasticity index of the soil are evaluated. The test procedure was in general accordance with ASTM D 4318. The results are presented in Table B-2.

## Direct Shear Test

Direct shear test was performed on one selected sample in general accordance with the latest version of ASTM D 3080 to evaluate the shear strength characteristics of the selected materials. The samples were inundated during shearing to represent adverse field conditions. Test results are presented on Figures B-3 through B-4.

## Consolidation Test

A consolidation test was performed on one selected sample in general accordance with the latest version of ASTM D 2435. The sample was inundated during testing to represent adverse field conditions. The percent consolidation for each load cycle was recorded as a ratio of the amount of vertical compression to the original height of the sample. The results of the test are presented on Figure B-5.

## Corrosivity

Soil pH and resistivity tests were performed by Anaheim Test Laboratories on a representative soil sample in general accordance with the latest version of California Test Method 643. The chloride content of the selected sample was evaluated in general accordance with the latest version of California Test Method 422. The sulfate content of the selected samples was evaluated in general accordance with the latest version of California Test Method 417. The test results are presented on Table B-3.

## Resistance Value (R-Value)

R-value testing was performed on a select bulk sample of the near-surface soils encountered at the site. The test was performed in general accordance with ASTM D 2844. The results are summarized in Table B-4.

## Table B-1
## Number 200 Wash Results

| Boring No. | Depth (feet) | Percent Passing #200 |
|---|---|---|
| B-4 | 20 | 7.7 |
| B-4 | 25 | 13.1 |
| B-4 | 30 | 60.5 |
| B-4 | 40 | 19.3 |
| B-4 | 50 | 40.0 |

## Table B-2
## Atterberg Limits

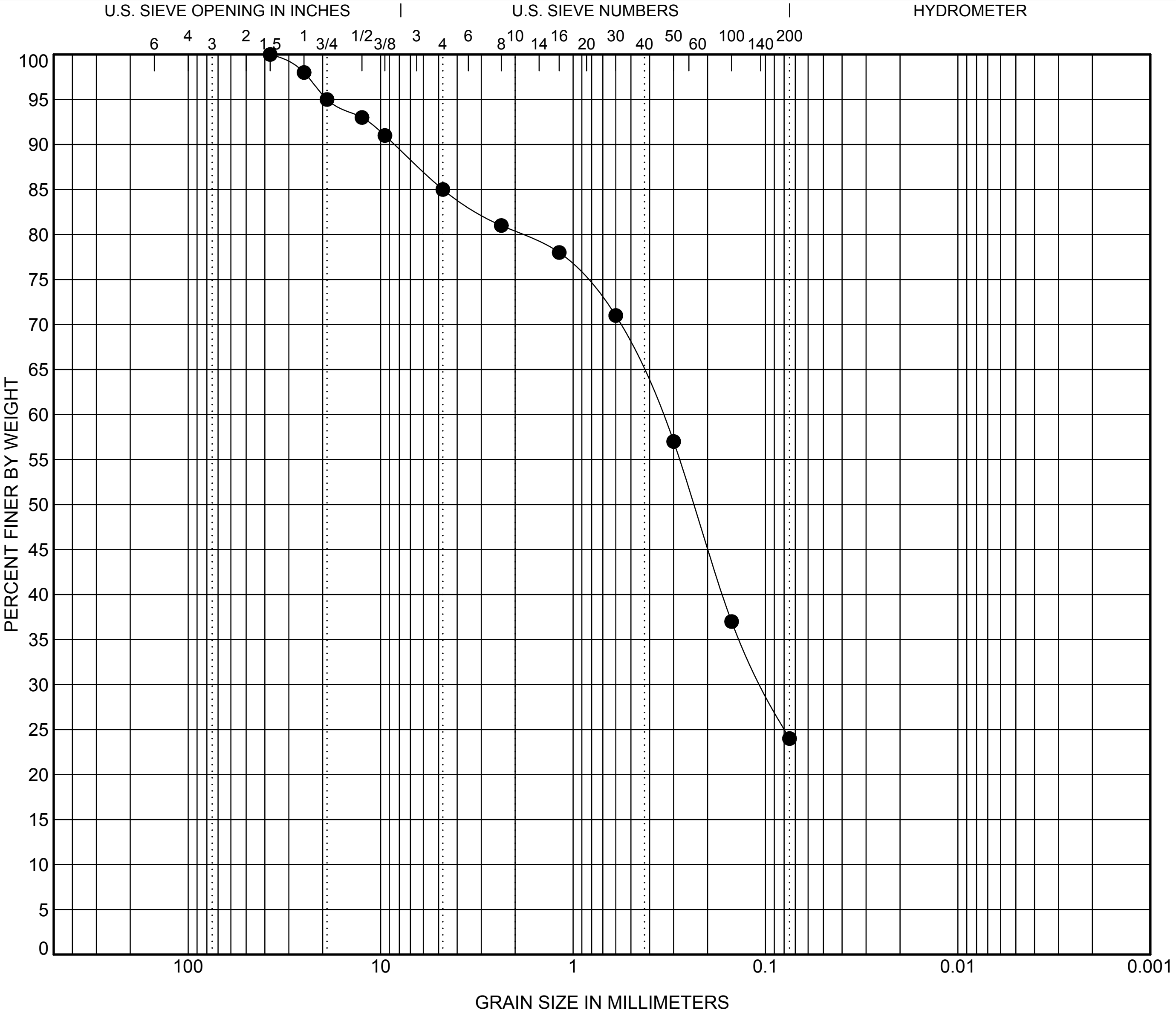
| Boring No. | Depth (feet) | Liquid Limit (%) | Plastic Limit (%) | Plastic Index (%) | USCS |
|---|---|---|---|---|---|
| B-4 | 35 | 28 | 19 | 9 | CL |

## Table B-3
## Soil Corrosivity Test Results

| Boring No. | Depth (feet) | pH | Water Soluble Sulfate (ppm) | Water Soluble Chloride (ppm) | Minimum Resistivity (ohm-cm) |
|---|---|---|---|---|---|
| B-1 | 0 – 5 | 6.8 | 31 | 14 | 14,000 |

## Table B-4
## Resistance Value (R-Value)

| Boring No. | Depth (feet) | R-Value |
|---|---|---|
| B-1 | 0 – 5 | 72 |



| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
|---|---|---|---|---|---|---|
| | coarse | fine | coarse | medium | fine | |

| Sample Location | U.S.C.S. Classification | Cc | Cu |
|---|---|---|---|
| ● **B-1 at 1-5 ft** | **Silty SAND** | | |

| $D_{100}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{10}$ | %Gravel | %Sand | %Silt | %Clay |
|---|---|---|---|---|---|---|---|---|
| **37.5** | **0.348** | **0.235** | **0.103** | | **15.0** | **61.0** | **24.0** | |

GRAIN SIZE 180870.1 - KIPP 81ST CHARTER SCHOOL.GPJ TWINING LABS.GDT 10/18/18

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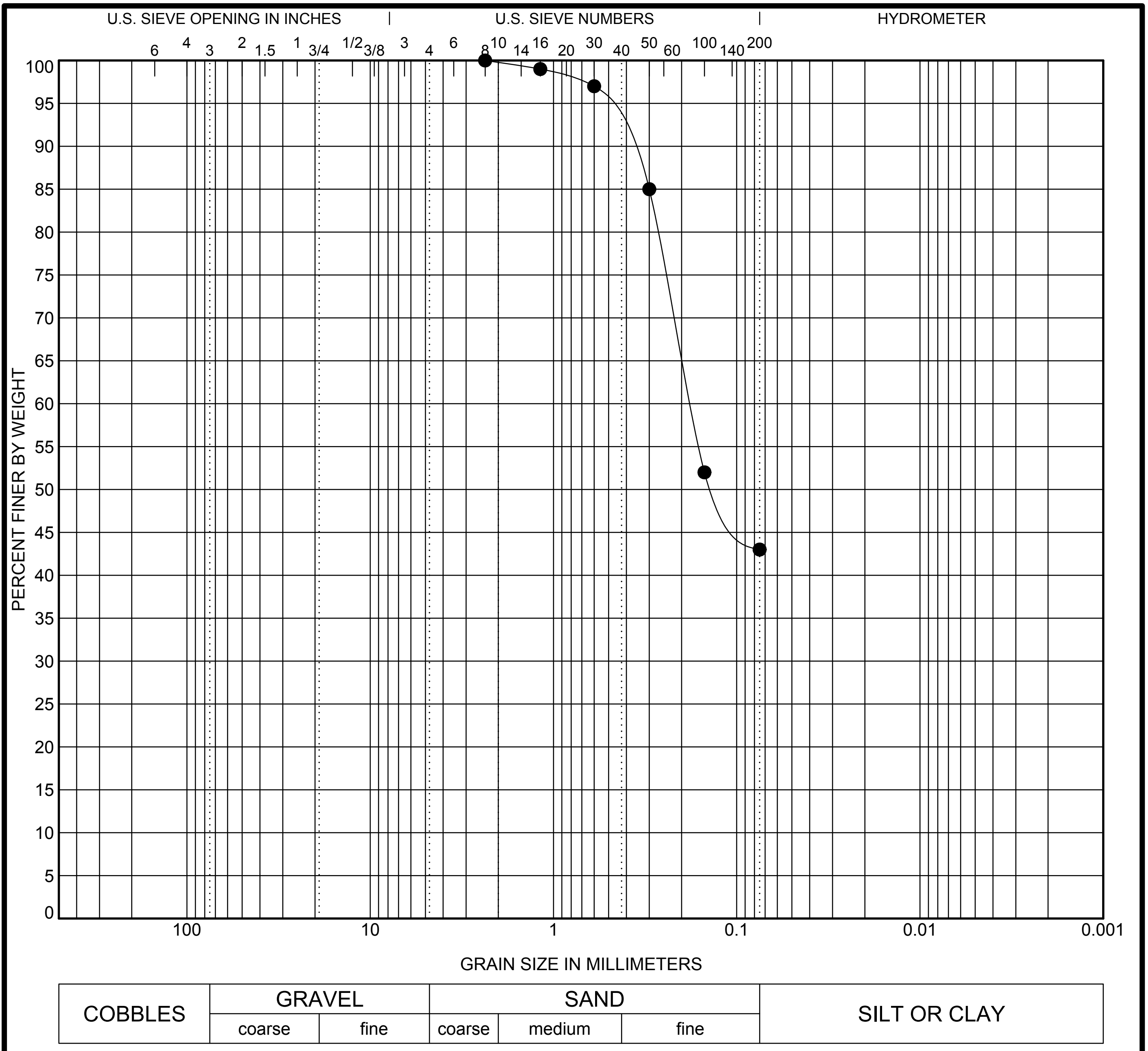
# GRAIN SIZE DISTRIBUTION

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE B- 1 |



| Sample Location | U.S.C.S. Classification | Cc | Cu |
|---|---|---|---|
| ● **B-4 at 5 ft** | **Silty SAND** | | |

| $D_{100}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{10}$ | %Gravel | %Sand | %Silt | %Clay |
|---|---|---|---|---|---|---|---|---|
| **2.36** | **0.177** | **0.129** | | | **0.0** | **57.0** | **43.0** | |

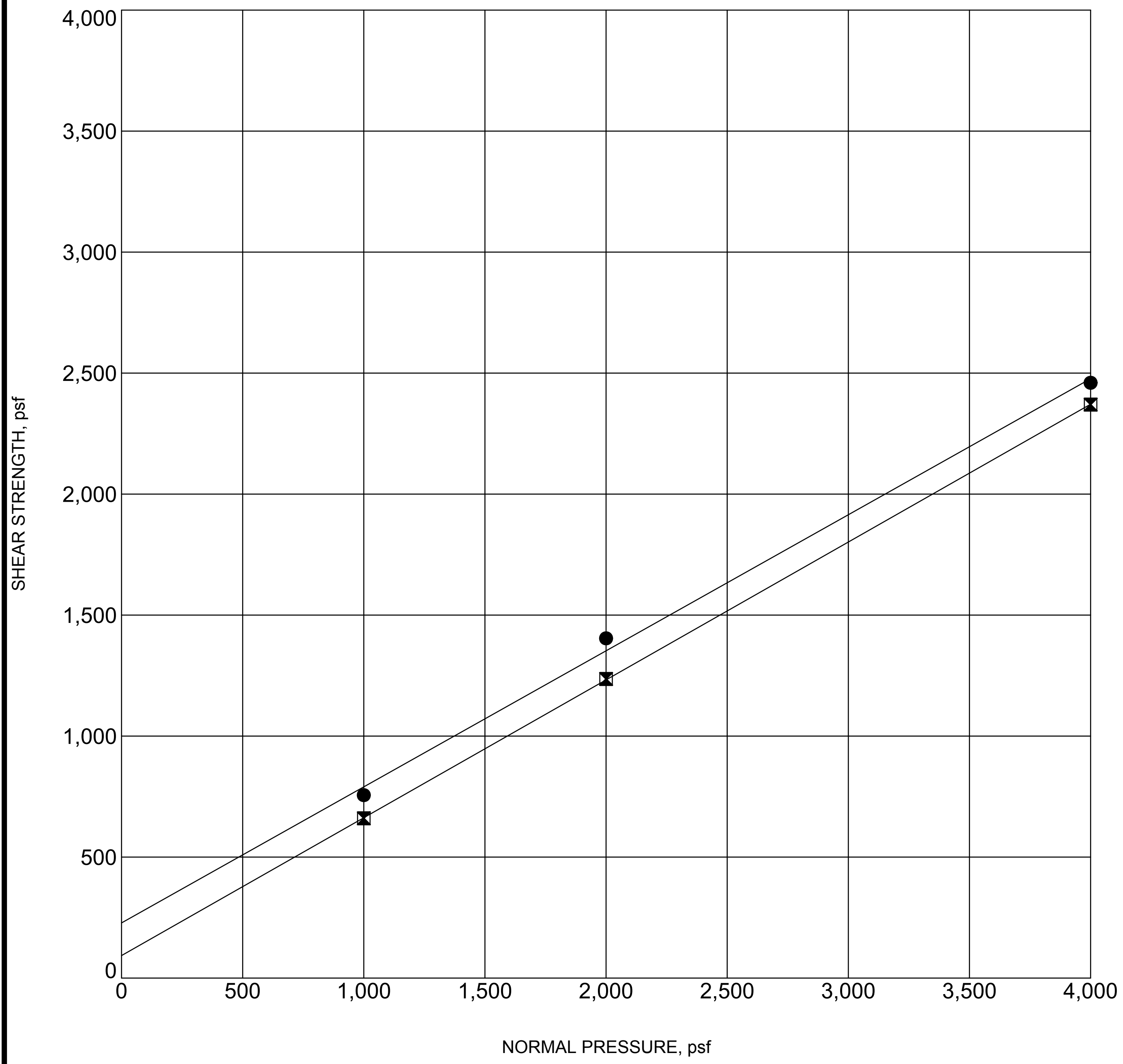
GRAIN SIZE 180870.1 - KIPP 81ST CHARTER SCHOOL.GPJ TWINING LABS.GDT 10/18/18

TWINING

## GRAIN SIZE DISTRIBUTION

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE B- 2 |



**Boring No.:** B-1
**Sample Depth (ft):** 5
**Sample Description:** Silty SAND
**Strain Rate (in./min):** 0.005
**Dry Density (pcf):** 101.0

**Shear Strength Parameters**

| | **Peak** —●— | **Ultimate** —☒— |
|---|---|---|
| **Cohesion, C (psf):** | 228 | 110 |
| **Friction Angle, Ø (deg):** | 29 | 29 |

**Initial Moisture (%):** 5.4
**Final Moisture (%):** 17.5

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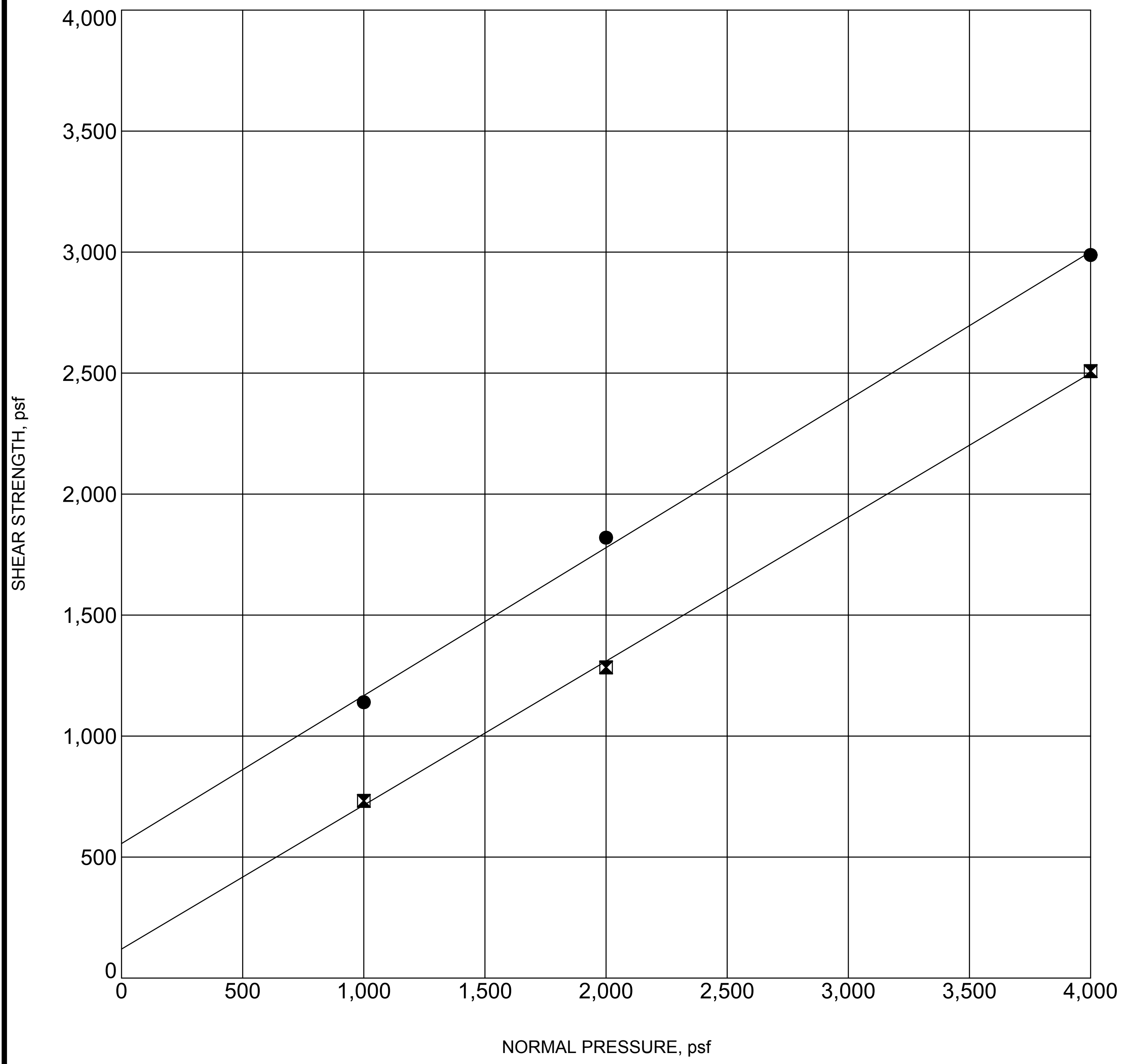
# DIRECT SHEAR TEST

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | FIGURE B-3 |
|---|---|---|
| 180870.1 | November 2018 | |

DIRECT SHEAR 180870.1 - KIPP 81ST CHARTER SCHOOL.GPJ TWINING LABS.GDT 11/15/18



**Boring No.:** B-5
**Sample Depth (ft):** 10
**Sample Description:** Silty SAND
**Strain Rate (in./min):** 0.005
**Dry Density (pcf):** 103.7

**Shear Strength Parameters**

|  | Peak —●— | Ultimate –⊠– |
|---|---|---|
| **Cohesion, C (psf):** | 556 | 125 |
| **Friction Angle, Ø (deg):** | 31 | 31 |

**Initial Moisture (%):** 12.7
**Final Moisture (%):** 11.8

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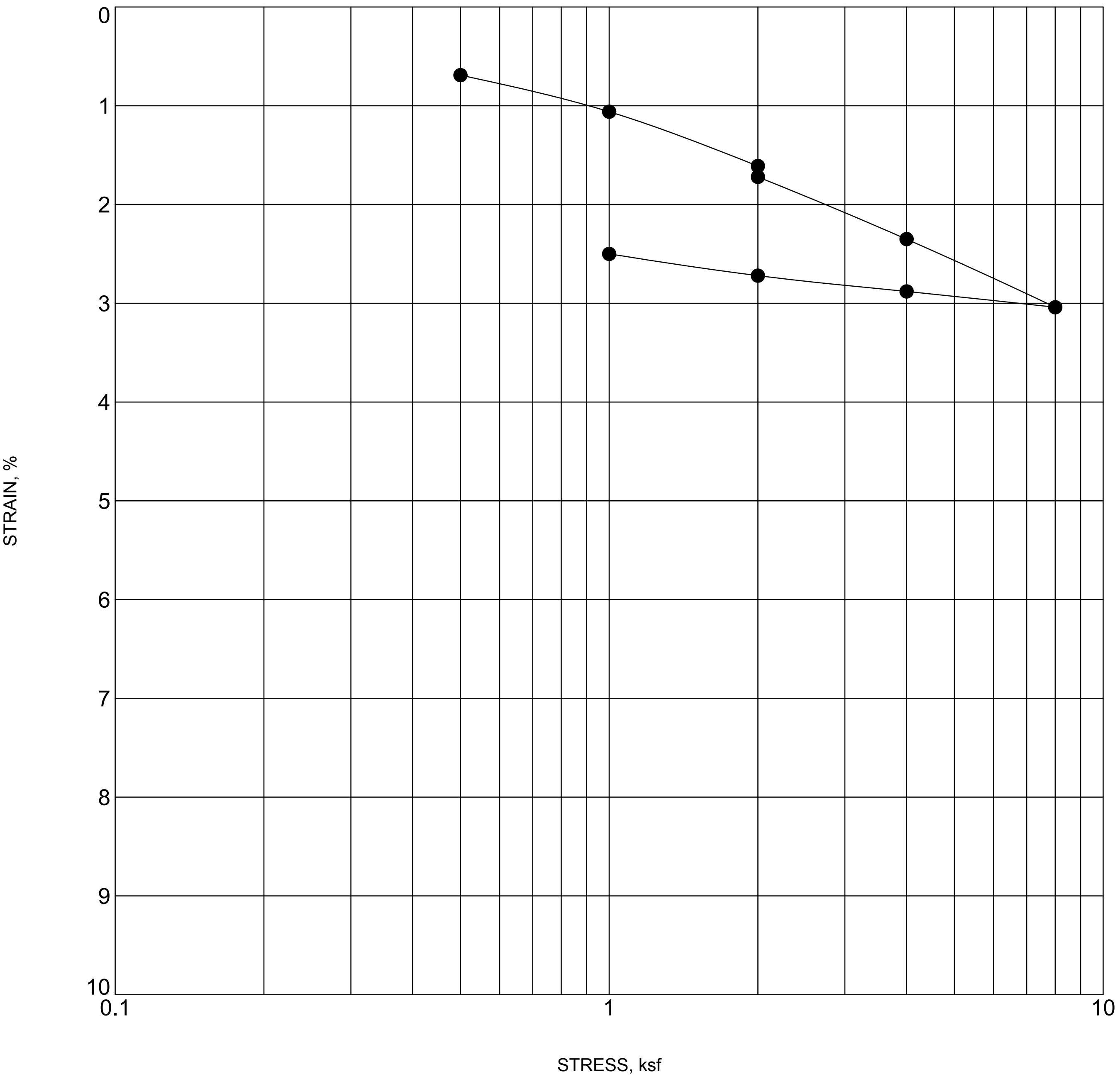
# DIRECT SHEAR TEST

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE B-4 |



|  | Sample Location | Soil Description | Dry Density (pcf) | Moisture Content (%) |
|---|---|---|---|---|
| ● | **B-4 at 15 ft** | **Poorly graded SAND** | **101.2** | **6.5** |

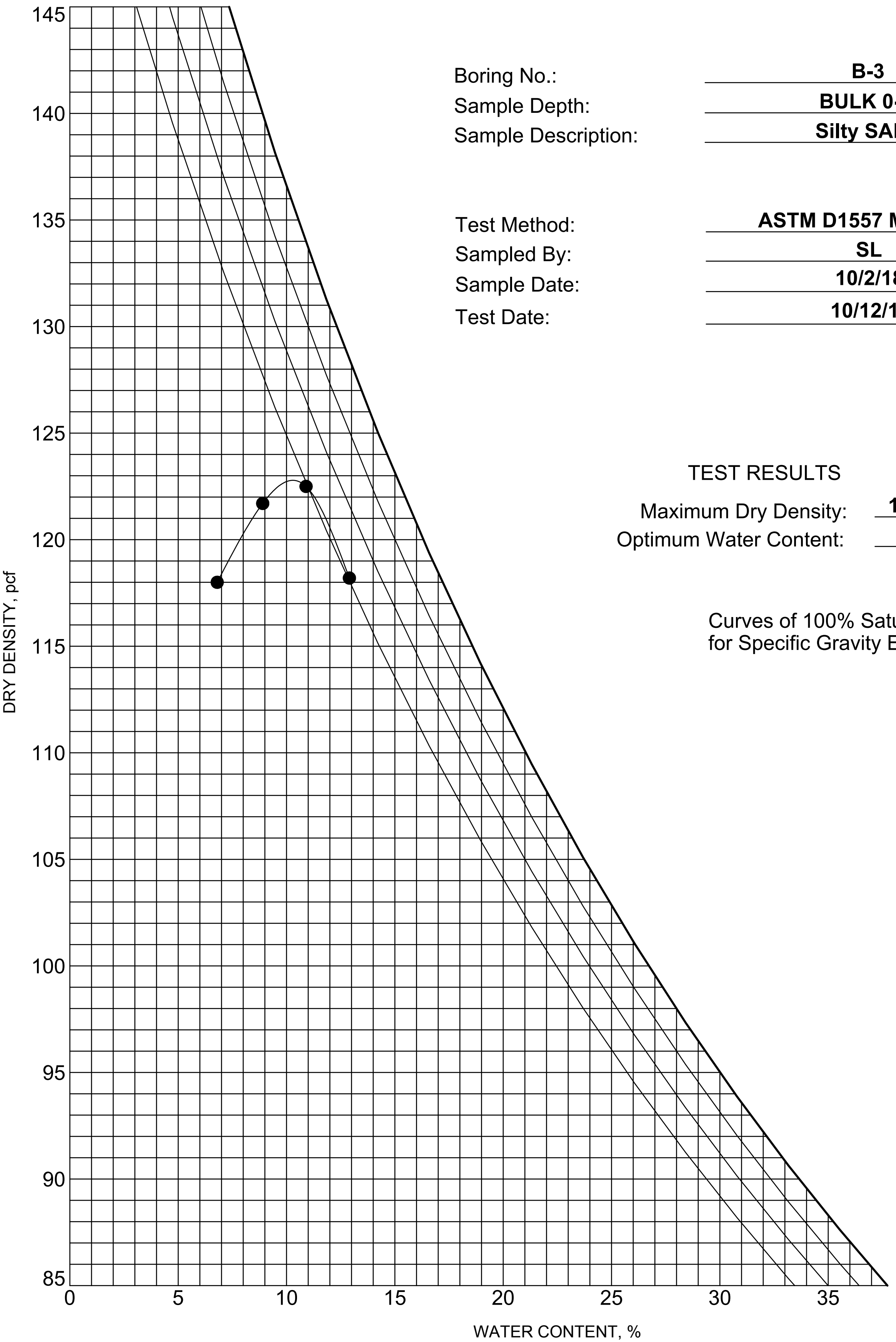
CONSOL STRAIN 180870.1 - KIPP 81ST CHARTER SCHOOL.GPJ TWINING LABS.GDT 10/18/18

TWINING

# CONSOLIDATION TEST

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE B-5 |



Boring No.: **B-3**
Sample Depth: **BULK 0-5'**
Sample Description: **Silty SAND**

Test Method: **ASTM D1557 Method A**
Sampled By: **SL**
Sample Date: **10/2/18**
Test Date: **10/12/18**

TEST RESULTS

Maximum Dry Density: **123.0** pcf
Optimum Water Content: **10.5** %

Curves of 100% Saturation
for Specific Gravity Equal to:

2.80

2.70

2.60

2.50

# MOISTURE-DENSITY RELATIONSHIP

KIPP 81st Street Charter School
1628 E. 81st Street
Los Angeles, California

| PROJECT NO. | REPORT DATE | |
|---|---|---|
| 180870.1 | November 2018 | FIGURE B-6 |

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# APPENDIX C
# PERCOLATION TESTING

# Appendix C
# Percolation Testing

One percolation boring was excavated at the project site as shown on Figure 2 – Site Location and Boring Location Map. The boring was advanced using an 8-inch hollow-stem auger to approximately 5 and 10 feet below existing ground surface. Percolation testing was performed on October 2, 2018 in general conformance with the County of Los Angeles requirements.

The purpose of the tests was to evaluate the infiltration rates of subgrade soils. At the completion of the boring excavation, a 3-inch diameter slotted PVC pipe was inserted in the borehole. The borehole was presoaked prior to testing. After the completion of presoaking, the borings were filled with water to a minimum depth of 12 inches above the bottom of excavation. Measurements of the distance from the top of the hole to the top of the water were taken every 2 minutes. The procedure was replicated for a total of 8 readings or until the results were consistently within ten percent of each other. Upon completion of the borings and testing, the boreholes were backfilled with soil from the cuttings as noted in the Log of Borings.

The infiltration rate was calculated by dividing the measured percolation rate by a reduction factor to account for discharge of water from the sides of the boring (i.e., non-vertical flow) as described in the referenced manual. The following formula was used:

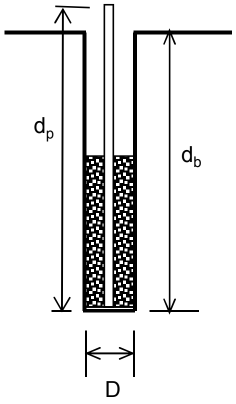
Percolation Rate = ($\Delta d$ / [Time Interval/60 minutes])
Reduction Factor ($R_f$) = ($2d_1$ / D - $\Delta d$/D) + 1
Infiltration Rate = (Percolation Rate) / (Reduction Factor)

The lowest reading was used to determine the infiltration rate. A summary of test results is presented in Table C-1 and the detailed test data is attached to this appendix.

**Table C-1 - Summary of Percolation Test Results**

| Test Location | Depth of Test Hole (ft.) | Design Infiltration Rate (in/hr) |
|---|---|---|
| B-3 | 5 | 2.64 |
| B-5 | 10 | 3.34 |

**Project No.:** 180870.1
**Project Name:** KIPP 81st Street Charter School



**Boring No.:** B-3 (P-2)
**Diameter of Boring (D):** 8.0 inches
**Depth of Boring ($d_b$):** 5.0 feet = 60 inches
**Diameter of Perc. Pipe :** 3.0 inches
**Length of Pipe ($d_p$) :** 5.0 feet = 60 inches

**PRE-SOAK Number One**
**Date:** 10/2/2018
**Start Time:** 8:55 AM
**Elapsed Time:** 10.00 minutes
**Water Remaining:** No

**PRE-SOAK Number Two**
**Date:** 10/2/2018
**Start Time:** 9:25 AM
**Elapsed Time:** 10.00 minutes
**Water Remaining:** No

**CORRECTION FACTORS**
Boring method: $CF_t = R_f = (2*d_i - \Delta d)/D + 1$
Site variability: $CF_v =$ 1.5 (1 ~ 3)
Long-term siltation: $CF_s =$ 1.5 (1 ~ 3)
Total Correction Factor: $CF = CF_t \times CF_v \times CF_s$

**PERCOLATION TEST** **Test Date:** 10/2/2018 **Test Performer:** DHC **Calculated by:** DHC

| Reading Number | Initial Time $T_i$ | Final Time $T_f$ | Elapsed Time $\Delta T$ (min) | Initial depth to water surface $dw_i$ (inches) | Final depth to water surface $dw_f$ (inches) | Initial height of water column $d_i$ (inches) | Drop of water column $\Delta d$ (inches) | Raw Percolation Rate $k_i = \Delta d / \Delta T$ (inch/hr) | Reduction Factor $R_f$ | Total Correction Factor $CF$ | Design Infiltration Rate $k = k_i / CF$ (inch/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10:28 AM | 10:38 AM | 10 | 24.6 | 33.6 | 35.4 | 9.0 | 54.00 | 8.7 | 19.6 | 2.75 |
| 2 | 10:38 AM | 10:48 AM | 10 | 10.8 | 24.0 | 49.2 | 13.2 | 79.20 | 11.7 | 26.2 | 3.02 |
| 3 | 10:48 AM | 10:58 AM | 10 | 3.6 | 18.0 | 56.4 | 14.4 | 86.40 | 13.3 | 29.9 | 2.89 |
| 4 | 10:58 AM | 11:08 AM | 10 | 6.0 | 19.2 | 54.0 | 13.2 | 79.20 | 12.9 | 28.9 | 2.74 |
| 5 | 11:08 AM | 11:18 AM | 10 | 5.4 | 18.0 | 54.6 | 12.6 | 75.60 | 13.1 | 29.4 | 2.57 |
| 6 | 11:18 AM | 11:28 AM | 10 | 6.0 | 18.6 | 54.0 | 12.6 | 75.60 | 12.9 | 29.1 | 2.60 |
|  |  |  |  |  |  |  |  |  |  |  |  |
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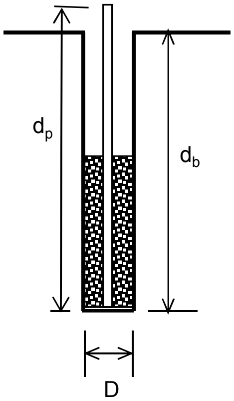
|  |  |  |  |  |  |  |  |  |  |  |  |

**Recommended Design Infiltration Rate (inch/hr) =** **2.64**

Reference: Los Angeles County (2014). Guidelines For Design, Investigation, and Reporting LID Stormwater Infiltration, GS200.1, dated 06/30/14

**Project No.:** 180870.1
**Project Name:** KIPP 81st Street Charter School

**Boring No.:** B-5 (P-1)
**Diameter of Boring (D):** 8.0 inches
**Depth of Boring ($d_b$):** 10.0 feet = 120 inches
**Diameter of Perc. Pipe :** 3.0 inches
**Length of Pipe ($d_p$) :** 10.0 feet = 120 inches



**PRE-SOAK Number One**

**Date:** 10/2/2018
**Start Time:** 8:05 AM
**Elapsed Time:** 30.00 minutes
**Water Remaining:** No

**PRE-SOAK Number Two**

**Date:** 10/2/2018
**Start Time:** 8:35 AM
**Elapsed Time:** 30.00 minutes
**Water Remaining:** No

**CORRECTION FACTORS**

Boring method: $CF_t = R_f = (2*d_i - \Delta d)/D + 1$
Site variability: $CF_v =$ 1.5 (1 ~ 3)
Long-term siltation: $CF_s =$ 1.5 (1 ~ 3)
Total Correction Factor: $CF = CF_t \times CF_v \times CF_s$

**PERCOLATION TEST** **Test Date:** 10/2/2018 **Test Performer:** DHC **Calculated by:** DHC

| Reading Number | Initial Time | Final Time | Elapsed Time | Initial depth to water surface | Final depth to water surface | Initial height of water column | Drop of water column | Raw Percolation Rate | Reduction Factor | Total Correction Factor | Design Infiltration Rate |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $T_i$ | $T_f$ | $\Delta T$ (min) | $dw_i$ (inches) | $dw_f$ (inches) | $d_i$ (inches) | $\Delta d$ (inches) | $k_i = \Delta d / \Delta T$ (inch/hr) | $R_f$ | $CF$ | $k = k_i / CF$ (inch/hr) |
| 1 | 9:05 AM | 9:15 AM | 10 | 63.0 | 82.8 | 57.0 | 19.8 | 118.80 | 12.8 | 28.7 | 4.13 |
| 2 | 9:15 AM | 9:25 AM | 10 | 67.8 | 83.4 | 52.2 | 15.6 | 93.60 | 12.1 | 27.2 | 3.44 |
| 3 | 9:25 AM | 9:35 AM | 10 | 64.2 | 79.8 | 55.8 | 15.6 | 93.60 | 13.0 | 29.3 | 3.20 |
| 4 | 9:35 AM | 9:45 AM | 10 | 64.2 | 79.2 | 55.8 | 15.0 | 90.00 | 13.1 | 29.4 | 3.06 |
| 5 | 9:45 AM | 9:55 AM | 10 | 57.6 | 75.6 | 62.4 | 18.0 | 108.00 | 14.4 | 32.3 | 3.34 |
| 6 | 9:55 AM | 10:05 AM | 10 | 57.0 | 74.4 | 63.0 | 17.4 | 104.40 | 14.6 | 32.8 | 3.18 |
| 7 | 10:05 AM | 10:15 AM | 10 | 51.0 | 70.8 | 69.0 | 19.8 | 118.80 | 15.8 | 35.5 | 3.35 |
| 8 | 10:15 AM | 10:25 AM | 10 | 51.6 | 72.0 | 68.4 | 20.4 | 122.40 | 15.6 | 35.0 | 3.50 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

**Recommended Design Infiltration Rate (inch/hr) =** 3.34

Reference: Los Angeles County (2014). Guidelines For Design, Investigation, and Reporting LID Stormwater Infiltration, GS200.1, dated 06/30/14

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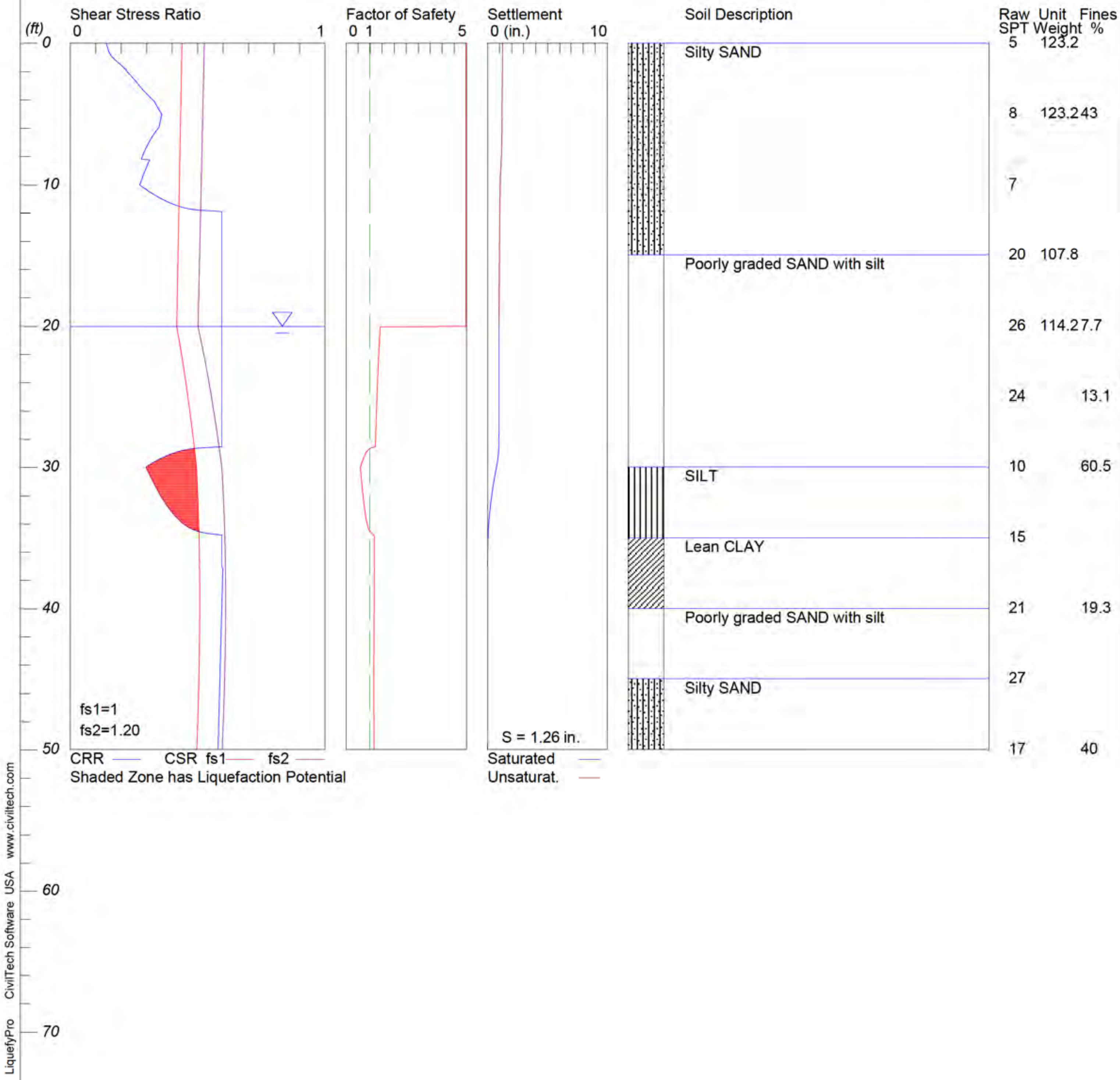
# APPENDIX D
# LIQUEFACTON AND SEISMIC SETTLEMENT ANALYSIS

# LIQUEFACTION ANALYSIS

## 1628 E. 81st Street

***Hole No.=B-4 Water Depth=20 ft***

***Magnitude=7***
***Acceleration=0.676g***



```
*********************************************************************************
********************
                                         LIQUEFACTION ANALYSIS SUMMARY

                                        Copyright by CivilTech Software
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*********************************************************************************
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        Font: Courier New, Regular, Size 8 is recommended for this report.
        Licensed to ,   11/14/2018      4:34:18 PM

        Input File Name: F:\B-4 Liquefaction.liq
        Title:  1628 E. 81st Street
        Subtitle:  180870.1

        Surface Elev.=
        Hole No.=B-4
        Depth of Hole= 50.00 ft
        Water Table during Earthquake= 20.00 ft
        Water Table during In-Situ Testing= 20.00 ft
        Max. Acceleration= 0.68 g
        Earthquake Magnitude= 6.70

 Input Data:
        Surface Elev.=
        Hole No.=B-4
        Depth of Hole=50.00 ft
        Water Table during Earthquake= 20.00 ft
        Water Table during In-Situ Testing= 20.00 ft
        Max. Acceleration=0.68 g
        Earthquake Magnitude=6.70
        No-Liquefiable Soils:   Based on Analysis

        1. SPT or BPT Calculation.
        2. Settlement Analysis Method: Ishihara / Yoshimine
        3. Fines Correction for Liquefaction: Idriss/Seed
        4. Fine Correction for Settlement: During Liquefaction*
        5. Settlement Calculation in: All zones*
        6. Hammer Energy Ratio,                                 Ce = 1.25
        7. Borehole Diameter,                                       Cb= 1.15
        8. Sampling Method,                                        Cs= 1.2
        9. User request factor of safety (apply to CSR) ,   User= 1.2
           Plot two CSR (fs1=1, fs2=User)
        10. Use Curve Smoothing: Yes*
        * Recommended Options
```

```
        In-Situ Test Data:
        Depth   SPT     gamma   Fines
        ft              pcf     %
        ____________________________________
        0.00    5.00    123.20  0.00
        5.00    8.00    123.20  43.00
        10.00   7.00    123.20  43.00
        15.00   20.00   107.80  43.00
        20.00   26.00   114.20  7.70
        25.00   24.00   114.20  13.10
        30.00   10.00   114.20  60.50
        35.00   15.00   114.20  60.50
        40.00   21.00   114.20  19.30
        45.00   27.00   114.20  19.30
        50.00   17.00   114.20  40.00
        ____________________________________

Output Results:
        Settlement of Saturated Sands=0.81 in.
        Settlement of Unsaturated Sands=0.27 in.
        Total Settlement of Saturated and Unsaturated Sands=1.08 in.
        Differential Settlement=0.538 to 0.710 in.

        Depth   CRRm    CSRfs   F.S.    S_sat.  S_dry   S_all
        ft                              in.     in.     in.
        _______________________________________________________
        0.00    0.16    0.44    5.00    0.81    0.27    1.08
        1.00    0.19    0.44    5.00    0.81    0.26    1.07
        2.00    0.25    0.44    5.00    0.81    0.26    1.06
        3.00    0.31    0.44    5.00    0.81    0.25    1.05
        4.00    0.36    0.44    5.00    0.81    0.24    1.04
        5.00    0.40    0.43    5.00    0.81    0.23    1.04
        6.00    0.39    0.43    5.00    0.81    0.22    1.03
        7.00    0.35    0.43    5.00    0.81    0.21    1.02
        8.00    0.32    0.43    5.00    0.81    0.18    0.99
        9.00    0.33    0.43    5.00    0.81    0.13    0.94
        10.00   0.31    0.43    5.00    0.81    0.09    0.90
        11.00   0.40    0.43    5.00    0.81    0.08    0.88
        12.00   0.67    0.43    5.00    0.81    0.06    0.87
        13.00   0.67    0.43    5.00    0.81    0.05    0.86
        14.00   0.67    0.43    5.00    0.81    0.04    0.85
        15.00   0.67    0.42    5.00    0.81    0.04    0.84
        16.00   0.67    0.42    5.00    0.81    0.03    0.84
        17.00   0.67    0.42    5.00    0.81    0.03    0.83
        18.00   0.67    0.42    5.00    0.81    0.02    0.82
        19.00   0.67    0.42    5.00    0.81    0.01    0.82
        20.00   0.67    0.42    5.00    0.81    0.00    0.81
        21.00   0.67    0.43    1.56    0.81    0.00    0.81
```

```
        22.00   0.67    0.44    1.53    0.81    0.00    0.81
        23.00   0.67    0.45    1.50    0.81    0.00    0.81
        24.00   0.67    0.45    1.47    0.81    0.00    0.81
        25.00   0.67    0.46    1.44    0.81    0.00    0.81
        26.00   0.67    0.47    1.42    0.81    0.00    0.81
        27.00   0.67    0.48    1.40    0.81    0.00    0.81
        28.00   0.67    0.48    1.38    0.80    0.00    0.80
        29.00   0.45    0.49    0.93*   0.77    0.00    0.77
        30.00   0.33    0.50    0.67*   0.63    0.00    0.63
        31.00   0.36    0.50    0.73*   0.43    0.00    0.43
        32.00   0.40    0.50    0.79*   0.28    0.00    0.28
        33.00   0.44    0.50    0.87*   0.16    0.00    0.16
        34.00   0.50    0.51    0.99*   0.07    0.00    0.07
        35.00   0.67    0.51    1.32    0.03    0.00    0.03
        36.00   0.67    0.51    1.31    0.02    0.00    0.02
        37.00   0.67    0.51    1.31    0.01    0.00    0.01
        38.00   0.67    0.51    1.32    0.01    0.00    0.01
        39.00   0.67    0.51    1.31    0.01    0.00    0.01
        40.00   0.67    0.51    1.31    0.01    0.00    0.01
        41.00   0.66    0.51    1.31    0.01    0.00    0.01
        42.00   0.66    0.51    1.30    0.01    0.00    0.01
        43.00   0.66    0.51    1.30    0.01    0.00    0.01
        44.00   0.66    0.51    1.30    0.01    0.00    0.01
        45.00   0.66    0.51    1.30    0.01    0.00    0.01
        46.00   0.66    0.50    1.30    0.01    0.00    0.01
        47.00   0.65    0.50    1.30    0.01    0.00    0.01
        48.00   0.65    0.50    1.30    0.01    0.00    0.01
        49.00   0.65    0.50    1.30    0.01    0.00    0.01
        50.00   0.65    0.50    1.31    0.00    0.00    0.00
        _______________________________________________________
        * F.S.<1, Liquefaction Potential Zone
        (F.S. is limited to 5,  CRR is limited to 2,    CSR is limited to 2)

        Units:  Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight =
pcf; Depth = ft; Settlement = in.


___________________________________________________________________________________
_
        1 atm (atmosphere) = 1 tsf (ton/ft2)
        CRRm            Cyclic resistance ratio from soils
        CSRsf           Cyclic stress ratio induced by a given earthquake (with
user request factor of safety)
        F.S.            Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
        S_sat           Settlement from saturated sands
        S_dry           Settlement from Unsaturated Sands
        S_all           Total Settlement from Saturated and Unsaturated Sands
        NoLiq           No-Liquefy Soils
```

# Response to County of Los Angeles
# Department of Public Works
# Geologic and Soils Engineering
# Review Sheet

# APPENDIX E-3

**Geotechnologies, Inc.**
*Consulting Geotechnical Engineers*

439 Western Avenue
Glendale, California 91201-2837
818.240.9600 • Fax 818.240.9675

Celebrating 50 YEARS OF SERVICE
1971-2021

July 19, 2021
File No. 22006

Klare Holdings and its Subsidiary
3601 East First Street
Los Angeles, California 90063

Subject: Response to County of Los Angeles Department of Public Works Geologic and Soils Engineering Review Sheet
Proposed Elementary School
1628 East 81st Street, Los Angeles, California

References: *Report by Geotechnologies, Inc.:*
Geotechnical Engineering Investigation, dated July 29, 2021

*County of Los Angeles Department of Public Works Correspondence:*
Geologic and Soils Engineering Review Sheet dated July 13, 2021

Ladies and Gentleman:

This letter has been prepared to provide a response to the referenced Geologic and Soils Engineering Review Sheet, dated July 13, 2021 issued by the County of Los Angeles Department of Public Works Geotechnical and Materials Engineering Division. Therein, 9 comments are made which require a response from this firm. The comments are repeated below and the response immediately follows. A copy of the review letter has been enclosed for reference.

Comment S1: *Provide a change of consultant letter stating the Soils Engineer of Record. The Soils Engineer of record must acknowledge all pertinent previous soil reports and a make statement that he agrees with their findings, conclusions, and recommendations or provide appropriate modifications.*

Response : Geotechnologies, Inc., has reviewed the referenced geotechnical report prepared by Twining (dated 11/15/18) and concurs with the conclusions and recommendations provided, except as modified within the referenced report prepared by Geotechnologies, Inc (dated 7/29/21). This firm accepts the professional responsibility for the project as the geotechnical engineer of record.

Comment S2: *Seismically induced settlements should include settlements of both saturated and unsaturated soils. Provide a revised analysis that includes settlement of unsaturated soils. Revise recommendations as necessary.*

Response: Seismically induced settlement of dry to moist cohesionless soils can be an effect related to earthquake ground motions. The application of seismic loading may compact the dry cohesionless soils whereby the volume of air voids within the soil reduces thus causing settlement to occur. Such settlements are typically most damaging when they are differential in nature across the length of structures.

Dynamic dry settlements were calculated utilizing Tokimatsu and Seed's procedure (1987) for the soils encountered in Boring B1. The subterranean level of the proposed structure is anticipated to extend to a depth of 10 feet. Site explorations were conducted to a depth of 60 feet below the ground surface. Therefore, calculations were performed upon the soil strata over a depth range of 10 to 60 feet below the ground surface. A peak ground acceleration of 0.85g and an earthquake magnitude of 6.8 were utilized in the calculations. Based on these parameters, the estimated seismically induced settlement of the unsaturated soils is calculated to be 0.34 inches. As provided in the referenced report, the largest seismically induced settlement determined from the site-specific liquefaction analyses for saturated soil conditions was calculated to be 1.65 inches. The cumulative seismically induced settlement of saturated and unsaturated soils would be approximately 1.99 inches.

Comment S3: *The geotechnical report dated 7/29/20 states differential settlement will be on the order of 1.1 inches. Provide the horizontal distance for the differential settlement.*

Response: The seismic differential settlement of 1.1 inches will occur over a horizontal distance of 30 feet across the recommended mat foundation.

Comment S4: *Show/Note the following on the building plans:*

a. *Approximate limits and depth of removal and recompaction of unsuitable soils. Per the soils engineer, on-site soils should be overexcavated at least 3 feet below the ground surface. The lateral extent of the overexcavation should be at least 3 feet beyond the building footprint*
b. *Details of mat foundation. Per the soils engineer, the bottom of the mat foundation should be a minimum of 18 inches in depth below the lowest adjacent grade.*
c. *All recommended mitigation measures*

Response: Acknowledged others in the design team will address these comments.

Comment S5: *Add the following note on the building plans: Foundation excavations must be inspected and approved by the geotechnical consultant(s) prior to placing of steel or concrete.*

Response: Acknowledged others in the design team will address this comment.

Comment S6: *All recommendations of the geotechnical consultant(s) must be incorporated into* *the design or shown as notes on the plans.*

Response: Acknowledged others in the design team will address this comment.

Comment S7: *The geotechnical consultant(s) must review the plans and sign and stamp, as appropriate, the plans in verification of their recommendations. Digital plans shall include an electronically generated representation of the licensee's seal, signature, and date of signing on each sheet appropriate to the foundation system, recommendations, and notes.*

Response: Acknowledged, when the plans are complete this office will review providing signature and stamp as requested.

Comment S8: *Submit building plans for verification of compliance with County Codes od policies.*

Response: Acknowledged, others in the design team will address this comment.

Comment S9: *Include a copy of this review sheet with your response.*

Response: Acknowledged.

Geotechnologies, Inc. appreciates the opportunity to provide our services on this project. Should you have any questions please contact this office.

Respectfully submitted,
GEOTECHNOLOGIES, INC.

EDMOND V. BABAYAN
R.C.E. 92424

EDMOND V. BABAYAN
NO. 92424
Exp. 6/30/23
CIVIL

EDWARD F. HILL
G.E. 2126

EDWARD F. HILL
No. 2126
Exp. 6/30/22

EVB/EFH:dy

Enclosures: Geologic and Soils Engineering Review Sheet July 13, 2021 (1 page)
Calculations of Dynamic Settlement of Dry Soils (1 page)

Distribution: (5) Addressee

Dist. Office 7.0
PCA GMBPRR
EPIC LA ESTU2019000406
Telephone: (626) 458-4925

## County of Los Angeles Department of Public Works
## Geotechnical and Materials Engineering Division
## GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Sheet 1 of 1

**Tract / Parcel Map** 
**Lot(s)** 
**Parent Tract** 
**Site Address** 1628 E 81St
**Location** Los Angeles
**APN** 6027003022
**Geologist** ---
**Developer/Owner** 
**Soils Engineer** Geotechnologies
**Engineer/Arch.** Berliner Architects

**Review of:**
Building P.C. No.: UNC-BLDC190716001031 For: New construction of 2 story elementary charter school
Submittal Received by GMED: **6/23/21**

Geologic Report(s) Dated: 
Soils Engineering Report(s) Dated: **7/29/20,** Twining (11/15/18)
Geotechnical Report(s) Dated: 
References:

**Action:** Plan is not recommended for approval from a geotechnical standpoint for reasons below.

S1. Provide a change of consultant letter stating the Soils Engineer of record. The Soils Engineer of record must acknowledge all pertinent previous soil reports and make a statement that he agrees with their findings, conclusions, and recommendations or provide appropriate modifications.

S2. Seismically induced settlements should include settlements from both saturated and unsaturated soils. Provide revised analysis that includes settlement of unsaturated soils. Revise recommendations as necessary.

S3. The geotechnical report dated 7/29/20 states differential settlement will be on the order of 1.1 inches. Provide the horizontal distance for the differential settlement.

S4. Show/Note the following on the building plans:
  a. Approximate limits and depth of removal and recompaction of unsuitable soils. Per the soils engineer, on-site soils should be overexcited at least 3 feet below the ground surface. The lateral extent of the overexcavation should be at least 3 feet beyond the building footprint.
  b. Details of mat foundation. Per the soils engineer, the bottom of the mat foundation should be a minimum of 18 inches in depth below the lowest adjacent grade.
  c. All recommended mitigation measures.

S5. Add the following note on the building plans: Foundation excavations must be inspected and approved by the geotechnical consultant(s) prior to the placing of steel or concrete.

S6. All recommendations of the geotechnical consultant(s) must be incorporated into the design or shown as notes on the plans.

S7. The geotechnical consultant(s) must review the plans and sign and stamp, as appropriate, the plans in verification of their recommendations. Digital plans shall include an electronically generated representation of the licensee's seal, signature, and date of signing on each sheet appropriate to the foundation system, recommendations, and notes.

S8. Submit building plans for verification of compliance with County Codes and policies.

S9. Include a copy of this review sheet with your response.

NOTE(S) TO THE PLAN CHECKER/BUILDING AND SAFETY DISTRICT ENGINEER:
PER THE SOILS ENGINEER:
  A. THE PROPOSED BUILDING SHOULD BE SUPPORTED BY A MAT FOUNDATION FOUNDED EXCLUSIVELY IN NEWLY PLACED COMPACTED FILL. THE BOTTOM OF THE MAT FOUNDATION SHOULD BE A MINIMUM OF 18 INCHES BELOW THE LOWEST ADJACENT GRADE. THE MAT FOUNDATION MAY BE DESIGNED UTILIZING A MODULUS OF SUBGRADE REACTION OF 350 POUNDS PER CUBIC INCH.
  B. ON-SITE SOILS ARE SEVERELY CORROSIVE TO FERROUS METALS.

Prepared by

C 91931

George Molina
Soils Section

---
Geology Section

Date 7/13/21

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey

NOTICE: Public safety relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.

P:\gmepub\Development Review\Combined Reviews\7.0 Southwest\1628 E 81st St. Los Angeles, 2021-07-13. BP-2-NA.docx

**GEOTECHNOLOGIES, INC.**

PROJECT Klare Holdings and its Subsidiary
FILE NO 22006
BORING B1

*EVALUATION OF EARTHQUAKE-INDUCED SETTLEMENTS IN DRY COHESIONLESS SOILS*

INPUT:

EARTHQUAKE INFORMATION:

| | |
|---|---|
| Earthquake Magnitude | 6.6 |
| Peak Horiz. Acceleration (g) | 0.85 |

| Depth of Base of Strata (ft) | Thickness of Layer (ft) | USCS Soil Type | Depth of Mid-point of Layer (ft) | Soil Unit Weight (pcf) | Overburden Pressure at Mid-point (tsf) | Mean Effective Pressure at Mid-point (tsf) | Average Cyclic Shear Stress [Tcyc] | Field SPT [N] | Correction Factor [Cer] | Relative Density [Dr] (%) | Correction Factor [Ca] | Corrected [N1]60 | Percent Passing 200 Sieve | DN for Fines Content | Fines Corrected [N1]60 | Maximum Shear Mod. [Gmax] (tsf) | [γeff]*[Geff] [Gmax] | [γeff] | [γeff]*100% | Volumetric Strain [E15] (%) | Number of Strain Cycles [Nc] | Corrected Vol. Strains [Ec] | Settlement [S] (inches) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 15.0 | 5.0 | SP | 12.5 | 119.2 | 0.75 | 0.50 | 0.405 | 10 | 1.3 | 60.0 | 1.43 | 19 | 14.9 | 3.2 | 21.7 | 315.808 | 1.03E-03 | 8.40E-03 | 8.40E-01 | 9.80E-02 | 9.3397 | 0.0792 | 0.10 |
| 20.0 | 5.0 | SP | 17.5 | 112.6 | 0.99 | 0.66 | 0.528 | 18 | 1.3 | 72.0 | 1.21 | 28 | 15.0 | 3.2 | 21.2 | 363.177 | 1.09E-03 | 7.20E-03 | 7.20E-01 | 7.10E-02 | 9.3397 | 0.0574 | 0.07 |
| 25.0 | 5.0 | SP | 22.5 | 123.2 | 1.39 | 0.93 | 0.729 | 22 | 1.3 | 75.0 | 1.05 | 30 | 0.0 | 0.0 | 22.0 | 430.751 | 1.18E-03 | 7.00E-03 | 7.00E-01 | 4.90E-02 | 9.3397 | 0.0396 | 0.05 |
| 30.0 | 5.0 | SM | 27.5 | 130.4 | 1.79 | 1.20 | 0.921 | 15 | 1.3 | 60.0 | 0.94 | 15 | 67.0 | 5.6 | 20.6 | 489.931 | 1.24E-03 | 7.50E-03 | 7.50E-01 | 4.20E-02 | 9.3397 | 0.0339 | 0.04 |
| 35.0 | 5.0 | CL | 32.5 | 126.0 | 2.05 | 1.37 | 1.023 | 10 | 1.3 | 58.0 | 0.88 | 11 | 72.8 | 5.5 | 15.5 | 523.548 | 1.23E-03 | 7.70E-03 | 7.70E-01 | 3.80E-02 | 9.3397 | 0.0307 | 0.00 |
| 40.0 | 5.0 | SM/SP | 37.5 | 123.1 | 2.31 | 1.55 | 1.118 | 23 | 1.3 | 69.0 | 0.85 | 25 | 0.0 | 0.0 | 23.0 | 555.872 | 1.21E-03 | 6.40E-03 | 6.40E-01 | 3.40E-02 | 9.3397 | 0.0275 | 0.03 |
| 45.0 | 5.0 | SP/ML | 42.5 | 126.1 | 2.68 | 1.80 | 1.254 | 22 | 1.3 | 65.0 | 0.79 | 23 | 0.0 | 0.0 | 22.0 | 598.938 | 1.22E-03 | 5.90E-03 | 5.90E-01 | 2.20E-02 | 9.3397 | 0.0178 | 0.02 |
| 50.0 | 5.0 | SM/ML | 47.5 | 117.9 | 2.80 | 1.88 | 1.262 | 20 | 1.3 | 63.0 | 0.77 | 20 | 71.1 | 5.5 | 25.5 | 612.257 | 1.16E-03 | 5.30E-03 | 5.30E-01 | 1.40E-02 | 9.3397 | 0.0113 | 0.01 |
| 55.0 | 5.0 | SP/ML | 52.5 | 115.4 | 3.03 | 2.03 | 1.312 | 27 | 1.3 | 69.0 | 0.76 | 27 | 0.0 | 0.0 | 27.0 | 636.814 | 1.13E-03 | 4.60E-03 | 4.60E-01 | 9.20E-03 | 9.3397 | 0.0074 | 0.01 |
| 60.0 | 5.0 | CL | 57.5 | 121.6 | 3.50 | 2.34 | 1.452 | 16 | 1.3 | 58.0 | 0.68 | 14 | 92.3 | 5.5 | 21.5 | 684.117 | 1.14E-03 | 3.70E-03 | 3.70E-01 | 7.70E-03 | 9.3397 | 0.0062 | 0.01 |

- Will be removed for excavation of the subterranean level

**Total Calculated Dynamic Dry Settlement (inches) 0.34**

# Further Phase II Environmental Site Assessment Subsurface Soil and Soil Gas Investigation Report

# APPENDIX F-1

ENCON

# FURTHER PHASE II ENVIRONMENTAL SITE ASSESSESSMENT SUBSURFACE SOIL AND SOIL GAS INVESTIGATION REPORT

**Subject Property:**

KLARE Holdings and its Subsidiary
3601 East First Street
Los Angeles, California 90063
Attention: Kyle Salyer, Director

**For Property Located at:**

Former Industrial Facility
1628-1638 East 81st Street,
1619-1659 East 82nd Street
and 8151 South Maie Avenue
Los Angeles, California 90001

**Prepared by:**

ENCON Technologies, Inc.
Environmental and Engineering Services
12145 Mora Drive Suite #7
Santa Fe Springs, CA 90670
Tel: (562) 777-2200, Fax: (562) 777-2201
Email:encon@encontech.net

October 5, 2018

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### FIGURES:

| | |
|---|---|
| Figure 1 | Site Vicinity Map |
| Figure 2 | Site Map with Sampling Locations |

### EXHIBITS:

| | |
|---|---|
| Exhibit A | Eurofins CalScience Soil Analytical Report |
| Exhibit B | C&E Laboratory Soil Gas Analytical Report |
| Exhibit C | ENCON Boring Logs |
| Exhibit D | WEECO Phase I Environmental Site Assessment Report, text only, dated April 16, 2018 |
| Exhibit E | WEECO Limited Phase II Environmental Assessment Report, dated June 22, 2018 |

# 1.0 INTRODUCTION

## 1.1 Project Overview

ENCON Technologies, Inc., Environmental & Engineering Services (ENCON) was retained by KLARE Holdings and its subsidiaries, Project Client and Potential Buyer, to perform a Further Phase II Environmental Site Assessment (ESA) Soil and Soil Gas Investigation at the Subject Site located at 1628-1638 East 81st Street, 1619-1659 East 82nd Street and 8151 South Maie Avenue in Los Angeles, California (Subject Site). Refer to Figure 1 for Site Vicinity Map.

The Further Phase II ESA Investigation scope and sampling and analysis plan (SAP) were based on the Recognized Environmental Conditions (RECs) presented in the Phase I Environmental Site Assessment performed by Western Environmental Engineers Company (WEECO), dated April 16, 2018, as well on the findings of the limited Phase II ESA Soil Investigation performed by WEECO, report dated June 22, 2018. Refer to Exhibit D for text portion of WEECO Phase I ESA Report and Exhibit E for WEECO limited Phase II ESA Report. This Further Phase II ESA site subsurface investigation was requested by the Client for real estate environmental due diligence and planning purposes to fully investigate the Subject Site for the intended school campus use.

## 1.2 Summary of Findings

ENCON reviewed and concurs with the findings and conclusions presented in the WEECO Phase I ESA Report, dated April 16, 2018, and the recommendation that a Phase II ESA Subsurface Soil Investigation for the former truck repair facility located at 1628-1638 East 81st Street parcel be conducted to determine if the site was adversely affected by the previous truck repair operations. On June 11, 2018, WEECO conducted a shallow soil investigation and all of the analytical, Total Petroleum Hydrocarbons in the oil range (TPHo) and Volatile Organic Compound (VOC), constituents of concern (COCs) for truck repair operations were found to be below detection limits or non-detect as reported in the limited WEECO Phase II ESA Report, dated June 22, 2018. Refer to Exhibit D and Exhibit E for WEECO Phase I and Phase II Report text, respectively.

Based on ENCON review the previous reported data and results, however, ENCON concluded that the WEECO Phase II ESA Investigation was limited to 1628-1639 East 81st Street parcel and did not include the complete site investigation of the entire property; parcels: 1619-1659 East 82nd Street and 8151 South Maie Avenue, which were formerly operated as an industrial manufacturing facility. Therefore, a full soil investigation of the entire Subject Site was warranted. In addition, since KLARE Holdings intended use of the Subject Property is for a charter school campus and the former use of VOC chemicals, the site assessment investigation should be expanded to include a soil gas investigation to determine the presence, or absence, of vapor intrusion risks for a school setting.

The Subject Site has been fully investigated by ENCON Technologies, Inc. (ENCON) in accordance with the expanded site investigation and associated soil and soil gas sampling and analysis plan as presented in this ENCON Further Phase II ESA Report. The Subject Site Phase II ESA was completed employing the ASTM E1527-13 real estate due diligence guidelines and the current SSLs presented in the CalEPA California RWQCB Tier 1 ESLs and the RWQCB Interim Site Assessment & Cleanup Guidelines, dated May 1996.

The ENCON Phase II ESA Soil and Soil Gas Subsurface Investigation and the WEECO Limited Phase II ESA assessment have revealed no evidence of chemical affected soil or soil gas in connection with the Subject Site former automotive repair operations and former industrial manufacturing operations. In addition, the soil gas results indicate that the Subject Site was not adversely affected by the use of TPHo, VOC and PCB chemicals and no vapor intrusion conditions (VIC) exist beneath the Subject Site.

In addition, the metal compound soil data found in these tested areas were all within normal background ranges for Southern California, including the slightly elevated arsenic levels, ranging from 5.28 mg/kg to 7.71 mg/kg. These arsenic concentrations are above the Tier 1 ESL levels, however, the results are below the CalEPA DTSC's Arsenic Adjusted Background Concentration of 12 mg/kg. This adjusted background concentration is based on a statistical study of sites throughout Southern California and this adjusted arsenic concentration is used as a screening level for anthropogenic and naturally occurring levels of arsenic in soil in Southern California.

Therefore, it is the professional opinion of ENCON Technologies, Inc. that the Subject Site is suitable for the intended charter school use with no environmental limitations or restrictions and no further investigations are necessary at this time.

### 1.3 Phase I ESA Purpose and Phase II ESA Investigation Purpose

The purpose of a Phase I ESA record review and evaluation was to assist the Project Client and lender by providing reliable, early information on the environmental condition of the property and the possible need for additional evaluations and investigations, referred to as a Phase II ESA Subsurface Investigation. For reference purposes, the Phase I ESA involves non-intrusive investigation methods which are designed to identify the most common contamination sources and site conditions that pose a known or potential environmental risk to the property while the Initial Phase II ESA investigation is designed to verify the presence, or absence, of the contamination and characterize the nature of the contamination using the Phase I ESA finding sampling and analysis plan. A further or additional Phase II ESA investigation maybe required to define the extent of the contamination and develop a conceptual model. Phase III ESA remediation covers the actual site mitigation and/or remediation (cleanup) based on the information derived in the Phase II ESA investigation.

## 2.0 SITE BACKGROUND

### 2.1 Subject Site Description

The Subject Site, located at 1628-1638 East 81st Street, 1619-1659 East 82nd Street and 8151 South Maie Avenue, in the City of Los Angeles, APNs: 6027-003-022, 6027-003-023, 6027-003-024, 6027-003-025, 6027-003-027, 6027-003-028, 6027-003-029, 6027-003-030, and 6027-003-031, is described as an approximate 44,790 square foot lot, and is currently an asphalt paved parking lot. The Subject Site is located in a mixed industrial and residential area in the City of Los Angeles, north of the 105 Freeway and west of the 110. The Subject Site is bounded by East 82nd Street to the north, East 81st Street to the south and Maie Avenue to the east, refer to Figure 1 for the Site Location Map.

### 2.2 Site Historical Background

According to available historical sources as provided in WEECO's Phase I ESA Report, prior to 1952, the Subject Site was occupied by a truck yard and truck repair facility located at 1628-1638 E. 81st Street parcel. From 1963 to 1972, the Subject Site was comprised by seven (7) buildings most likely used for textile manufacturing and distribution. From 1980 to the present time in 2018, the Subject Site has been operated as an asphalt paved parking lot for MJ Textile located at 8122 S. Maie Avenue.

These former historical truck repair facility and textile manufacturing operations were involved with the use of hazardous materials and generating hazardous waste and therefore, are considered to be a Recognized Environmental Condition (REC) requiring further investigation, specifically a Phase II ESA Subsurface Soil and Soil Gas Investigation, at this time. The areas that pose a significant environmental risk to the Subject Site include the following areas: 1) suspected area of automotive repair and storage, and 2) potential vapor intrusion concerns (VIC) from the former automotive operations.

### 2.3 Further Phase II ESA Investigation

Based on the Phase I ESA performed by WEECO, the following Recognized Environmental Condition (REC) was identified at the Subject Site, which poses a potential environmental risk to the Subject Site. Based on these identified RECs, WEECO performed a limited Phase II ESA at the Subject Site, in June 2018. Refer to Exhibit E for report text. Based on the Client's intended use of the Subject Site as a school campus, ENCON developed a Further Phase II ESA Sampling and Analysis Plan (SAP) that would target these RECs in a grid pattern, to confirm the presence, or absence, of any significant unauthorized releases of hazardous materials present beneath the Subject Site that may pose a significant threat to the environment or public safety. Refer to Figure 2 for Site Map showing the Sampling and Analysis Plan.

1. REC #01 – Automotive repair facility and potential soil contamination. Automotive repair operations typically include the storage and use of hazardous materials which pose a potential risk to the Subject Site, requiring further investigation.
2. REC #02 – Potential chemical vapor intrusion concerns. Due to the historical use of the Subject Site, there is potential for Vapor Intrusion Conditions (VICs), requiring further investigation.

The Further Phase II ESA subsurface investigation was designed to address all RECs identified at the Subject Site in the Phase I ESA assessment performed by WEECO (identified potential recognized environmental conditions) from the past and/or current hazardous material operations and the effects on soils and soil gas at the Subject Site, under the direction of a California Professional Geologist.

## 3.0 ENVIRONMENTAL SETTING

The Subject Property is located in the Los Angeles Forebay Area, in the northern part of the Central Basin. In general, it is a free groundwater area, however, in the course of previous investigations it became evident that the Bellflower aquiclude extends into the southerly portion of the forebay area. The aquiclude extends in this area and contains a high percentage of sand, and vertical percolation of water is apparently more rapid here than in other portions of the basin covered by it. Where the Bellflower aquiclude is missing within the forebay area, the aquifers are in direct hydraulic continuity with the surface.

The Los Angeles Forebay Area is overlain by parts of the La Brea, Los Angeles and Montebello Plains. The known water-bearing sediments extend to a depth of 1600 feet (1440 feet below sea level) and include recent alluvium, the Lakewood formation and the San Pedro formation. Some fresh water also may be present in the Pliocene and Miocene rocks underlying these formations in this area.

Recent alluvium in the Los Angeles Forebay Area is found on the Los Angeles Plain and in the Los Angeles Narrows. It attains a maximum thickness of 160 feet, and includes the western arm of Gaspur aquifer and the parts of the Semi-perched aquifer and Bellflower aquiclude lying west and south of the Los Angeles River.

The groundwater depth in the vicinity of the subject property ranges from 40 to 90 feet bgs (data obtained from GeoTracker from a closed LUST site, 8200 S. Compton Avenue). The regional groundwater flow is expected to follow the topographic gradient, which is towards the south. (WEECO, 2018).

## 4.0 PREVIOUS INVESTIGATIONS

### 4.1 Limited Phase II ESA – WEECO, June 2018

Based on the Phase I ESA report prepared by WEECO on April 16, 2018, WEECO conducted a Phase II ESA Investigation at the Subject Site to investigate the RECs identified. On June 11, 2018, WEECO advanced six (6) soil borings (B1 through B6) to a depth of 20 feet below grade surface (bgs), and soil samples were collected at 10 feet bgs and 20 feet bgs in each boring location. Following collection of the soil samples, WEECO delivered the samples to Chemtek Environmental Laboratories for analysis for Total Petroleum Hydrocarbons in the full carbon range (TPHcc) using EPA Method 8015M and Volatile Organic Compounds (VOCs) using EPA Method 8260B.

As presented in WEECO's Phase II ESA Report, provided in Exhibit E for reference, all of the soil samples analyzed indicated concentrations of non-detect (ND). Therefore, WEECO concluded that no further action was required at the Subject Site. Refer to Exhibit E for WEECO Phase II Investigation Report.

## 5.0 PHASE II ESA SUBSURFACE INVESTIGATION SCOPE OF WORK

Based on the Phase I ESA and limited Phase II ESA performed by WEECO, and the Client's intended use of the Subject Site for school use, ENCON recommended performing a Further Phase II ESA subsurface soil and soil gas investigation in order to confirm the presence, or absence, of chemical releases from the RECs identified that may have adversely affected the Subject Site, listed below. ENCON's Senior Registered Environmental Property Assessor, Mr. G. Joseph Scatoloni conducted a site reconnaissance on June 6, 2018 to inspect the Subject Site and develop a Phase II ESA Sampling & Analysis Plan (SAP) to address the areas of concern (AOC).

The SAP was developed to address the subsurface soil and soil gas site conditions associated with the identified RECs, or potential AOCs, to define risk to the environment and future occupants of the Subject Site. The constituents of concern (COC) from the historical automotive repair operations are petroleum hydrocarbons in the waste oil range (TPHo), volatile organic compound (VOC) solvents, polychlorinated biphenyl (PCB) and metals in soil, and VOCs in soil gas.

The Phase II ESA Subsurface Soil and Soil Gas Investigation scope of work includes the following tasks performed on the subject site:

1. **Historical Automotive Repair and Manufacturing Operations Impact to Soil**: Advance ten (10) exploratory soil boring to 5 feet bgs (SB1, SB2, SB5, SB6, SB7, SB8, SB9, SB10, SB11 and SB12) with a truck mounted drill rig in a grid pattern across the Subject Site (REC #01). Soil samples were collected at approximately 12 inches and 5 feet below grade surface (bgs).

2. **Historical Automotive Repair and Manufacturing Operations Impact to Soil Gas:** Advance twelve (12) soil gas probes to 5 feet bgs (SV1, SV2, SV3, SV4, SV5, SV6, SV7, SV8, SV9, SV10, SV11 and SV12) with a truck mounted drill rig (REC #02). The soil gas samples were collected at 5 feet bgs.

ENCON submitted sixteen (16) soil and twelve (12) soil gas samples for analysis using proper chain-of-custody procedures to a State certified analytical laboratory and analyzed representative samples for TPHo using EPA Method 8015M, VOCs using EPA Method 8260B, metals using CA Title 22 CAM Metals and PCBs using EPA Method 8082, in order to address RECs identified at the Subject Site. The soil analytical laboratory data report is provided in Exhibit A and the soil gas analytical report is provided in Exhibit B for reference, and the data is summarized in this report.

## 6.0 FURTHER SOIL AND SOIL GAS INVESTIGATION

### 6.1 Sampling Plan and Boring Locations

Prior to field drilling, ENCON's field geologist marked each boring location and the Subject Site utilities were surveyed and cleared using US Dig Alert. The boring locations may be adjusted in this pre drilling period to ensure safety and proper clearances.

Geoprobe sampling locations were selected based on the results of the historical review of the available documents and the areas targeted of hazardous materials storage or usage. The soil sampling was conducted primarily to evaluate areas where hazardous materials were used and/or released at the Subject Site. The soil gas sampling was conducted to determine the potential vapor intrusion to the building area as well as the off-site facilities environmental vapor encroachment condition (VEC) risk to the Subject Site.

The soil boring data evaluated in this Phase II ESA investigation consists of the following targeted areas. Refer to Figure 2 for Sampling Location Map.

| Site Area Description | Boring IDs | Sampling Depth | Analyses |
|---|---|---|---|
| REC #01 – Historical automotive repair, and manufacturing operations | SB1, SB2, SB5, SB8, SB9 and SB12 | 12 inches<br>5 feet | EPA Method 8082 PCBs<br>Title 22 CAM Metals, EPA Method 8015M TPH-Waste Oil and EPA Method 8260B VOCs |
|  | SB6, SB7, SB10 and SB11 | 5 feet | EPA Method 8015M TPH-Waste Oil and EPA Method 8260B VOCs |

The soil gas boring data evaluated in this Phase II ESA investigation consists of the following targeted areas inside the main building:

| Site Area Description | Boring IDs | Sampling Depth | Analyses |
|---|---|---|---|
| REC #02 – Vapor intrusion concern from historical automotive repair, and manufacturing operations | SV1, SV2, SV3, SV4, SV5, SV6, SV7, SV8, SV9, SV10, SV11 and SV12 | 5 feet | EPA Method 8260 VOC |

## 6.2 Drilling, Soil Matrix Sampling and Field Methods

On September 20, 2018, ten (10) exploratory soil borings were advanced, as described above, under the direction Mr. G. Joseph Scatoloni, ENCON Registered Environmental Professional and, George Salley, Registered Geologist. Soil samples were collected from borings SB1, SB2, SB5, SB8, SB9 and SB12 at approximately 12 inches bgs and 5 feet bgs. Soil samples were collected from borings SB6, SB7, SB10 and SB11 at 5 feet bgs.

All of the soil borings were advanced using a truck mounted Geoprobe 5410 direct push drill rig and the soil samples were collected with a 1 inch diameter by 30 inch removable acetate liner from each sampling interval. Each liner was cut at both ends and the center 6 inch portion of the liner was capped on both ends with Teflon and plastic caps.

All sampling equipment was properly cleaned between sample intervals and boring locations. The sampling equipment was cleaned using a triple rinse decontamination process consisting of a phosphate free primary wash (Alconox or TSP), a secondary stage with a low pH water to reduce the likelihood cross-contamination (mild solution of nitric acid HN03), and a tertiary rinse using de-ionized water. Soil samples were visually inspected in the field for traces of contamination. Groundwater was not encountered during drilling.

Upon collection, all soil samples were labeled, recorded on a chain-of-custody document, and placed in cold storage until delivered to a state-certified laboratory for analysis. Soil samples were collected in accordance with accepted EPA Sampling Protocol and handled according to standard EPA chain-of-custody procedures.

No evidence of subsurface contamination odors or discoloration in soils was indicated in the borings or soil cuttings. No groundwater or saturated zones were encountered during the drilling at any depth. Soil boring locations are illustrated in Figure 2.

### 6.3 Drilling, Soil Gas Sampling and Field Methods

On September 20, 2018 and September 21, 2018, twelve (12) soil gas probes were installed using a truck mounted 5410 Geoprobe direct push drill rig. All of the soil gas probes were installed at a depth of 5 feet bgs, and consisted of an air diffuser connected to ¼" diameter polyethylene flex tubing that extended to above the grade surface for sampling. The space surrounding the diffusers was filled with fine sand and sealed to the near surface with bentonite chips and water treatment.

The soil gas sampling probes were allowed to equilibrate and sampling was conducted by applying a vacuum and collecting vapor samples. After each probe was allowed to equalized, soil gas sample was extracted using a Xitech Model 1060H 1-Liter High Vac Bag Sampler vacuum pump and sampling box drawing air from the subsurface through the poly tubing and filling a Tedlar bag located inside the Sampler Box, upstream from the pump. The samples were collected after purging at least 7 pore volumes by the Field Technician.

### 6.4 Soil and Soil Gas Sample Laboratory Analyses

All of the soil and gas samples were delivered to State certified analytical laboratories, C & E Laboratories in Cerritos, California and Eurofins Calscience in Garden Grove, California, on the next business day following collection by the Field Technician. The soil and soil gas samples were analyzed for the following COCs as listed below, and in the tables above.

1. REC #01 – Two (2) soil samples were collected from each boring location, SB1, SB2, SB5, SB8, SB9 and SB12, for a total of twelve (12) soil samples, at approximately 12 inches bgs and 5 feet bgs. The 12 inch soil samples were analyzed for PCBs using EPA Method 8082, and the 5 foot soil samples were analyzed for metals using Title 22 CAM metals, TPHo using EPA Method 8015M, and VOCs using EPA Method 8260B.

   In addition, one (1) soil sample was collected from each boring location, SB6, SB7, SB10 and SB11, for a total of four (4) soil samples, at approximately 5 feet bgs. The soil samples were submitted for analysis for TPHo using EPA Method 8015M and VOCs using EPA Method 8260B.

2. REC #02 – Twelve (12) soil gas samples were collected at 5 bgs (SV1, SV2, SV3, SV4, SV5, SV6, SV7, SV8, SV9, SV10, SV11 and SV12), and the soil gas samples were submitted for analysis using EPA Method 8260B VOCs.

The analytical laboratory reports are provided in Exhibit A and Exhibit B for reference purposes, and the site map showing the sampling plan is provided in Figure 2.

## 7.0 SUBSURFACE SOIL AND SOIL GAS INVESTIGATION FINDINGS

### 7.1 Soil Sample Laboratory Results

Soil samples were submitted to a State-Certified analytical laboratory, accredited under the Environmental ELAP, for analysis. The soil results are summarized in Table 1 and Table 2 below and complete laboratory analytical reports are provided in Exhibit A for reference.

**Table 1: Soil Sample Analytical Results for REC #01 –**

| Sample ID | Petroleum Hydrocarbon in Oil Range (TPHo) (mg/kg) | Volatile Organic Compounds (VOCs) (ug/kg) | Polychlorinated Biphenyl (PCB) (ug/kg) | Metal Compounds CAM Metals (mg/kg) |
|---|---|---|---|---|
| **SB1-1** | NA | NA | **ND** | NA |
| **SB1-5** | NA | NA | NA | **See Table 2** |
| **SB2-1** | NA | NA | **ND** | NA |
| **SB2-5** | NA | NA | NA | **See Table 2** |
| **SB5-1** | NA | NA | **ND** | NA |
| **SB5-5** | **ND** | **ND** | NA | **See Table 2** |
| **SB6-5** | **ND** | **ND** | NA | NA |
| **SB7-5** | **ND** | **ND** | NA | NA |
| **SB8-1** | NA | NA | **ND** | NA |
| **SB8-5** | **ND** | **ND** | NA | **See Table 2** |
| **SB9-1** | NA | NA | **ND** | NA |
| **SB9-5** | **ND** | **ND** | NA | **See Table 2** |
| **SB10-5** | **ND** | **ND** | NA | **See Table 2** |
| **SB11-5** | **ND** | **ND** | NA | **See Table 2** |
| **SB12-1** | NA | NA | **ND** | NA |
| **SB12-5** | **ND** | **ND** | NA | **See Table 2** |
| **RL** | **1.0** | **1.0** | | **1.0** |

Note:
ND – Not detected above laboratory Reporting Limits
NA – Not analyzed for this constituent
RL – Laboratory reporting Limit
Mg/kg – Milligrams per kilogram
Ug/kg – Micrograms per kilogram

**Table 2: Soil Sample Analytical Results for CA Title 22 CAM Metals mg/kg**

| Sample ID | Arsenic | Barium | Chromium | Cobalt | Copper | Lead | Nickel | Vanadium | Zinc |
|---|---|---|---|---|---|---|---|---|---|
| SB1-5 | 6.49 | 158 | 16.0 | 9.89 | 17.1 | ND | 12.4 | 34.2 | 73.4 |
| SB2-5 | 7.04 | 133 | 15.2 | 9.70 | 15.0 | ND | 11.0 | 36.3 | 46.8 |
| SB5-5 | 5.97 | 108 | 14.8 | 9.84 | 12.9 | ND | 10.1 | 34.2 | 47.2 |
| SB8-5 | 6.40 | 117 | 16.4 | 9.57 | 16.6 | ND | 13.3 | 35.1 | 50.0 |
| SB9-5 | 7.71 | 162 | 20.3 | 11.6 | 24.4 | ND | 17.9 | 43.2 | 60.7 |
| SB12-5 | 5.28 | 97.6 | 12.5 | 8.32 | 11.5 | ND | 9.53 | 29.7 | 41.0 |
| RL | 1.0 | 0.5 | 0.25 | 0.25 | 0.5 | 0.5 | 0.25 | 0.25 | 1.0 |
| School (Res) Tier 1 ESLs | 0.067 | 15,000 | 100,000 | 23.0 | 3,100 | 80 | 820 | 390 | 23,000 |
| Commercial Tier 1 ESLs | 0.310 | 220,000 | 100,000 | 350 | 47,000 | 320 | 11,000 | 5,800 | 350,000 |
| DTSC Background | 12.0 | | | | | | | | |

Note:
ND - not detected above laboratory Reporting Limits
RL – Laboratory reporting Limit
DTSC Background – Arsenic Adjusted Background Concentration of 12 mg/kg was based on statistical study of sites throughout Southern California as reported by CalEPA DTSC. This arsenic concentration is used as a screening level for anthropogenic and naturally occurring levels of arsenic in soil in Southern California.

### 7.2 Soil Sample Results Summary

ENCON submitted sixteen (16) soil samples to a California State certified laboratory, Eurofins CalScience, for analyses using proper sampling and chain-of-custody procedures. The samples were analyzed for petroleum hydrocarbon in the oil range (TPHo) using EPA Method 8015, metals using Title 22 CAM Metals EPA Methods 6010/7000, Polychlorinated Biphenyl (PCB) using EPA Method 8082, and volatile organic compounds (VOCs) using EPA Method 8260B. The analysis was prepared to address the RECs identified at the Subject Site.

All of the soil sample data obtained from the Subject Site, REC #01, were below detection limits for the primary constituents of concern identified at the Subject Site, TPHo, PCBs and VOCs. These results indicate that the Subject Site was not adversely affected by the former automotive repair and storage operations.

In addition, the metal compound soil data found in these tested areas were all within normal background ranges for Southern California, including the slightly elevated arsenic levels, ranging from 5.28 mg/kg to 7.71 mg/kg. These arsenic concentrations are above the Tier 1 ESL levels, however, the results are below the CalEPA DTSC's Arsenic Adjusted Background Concentration of 12 mg/kg. This adjusted background concentration is based on a statistical study of sites throughout Southern California and this adjusted arsenic concentration is used as a screening level for anthropogenic and naturally occurring levels of arsenic in soil in Southern California.

### 7.3 Soil Gas Sample Laboratory Results

Soil gas samples were submitted to a State-Certified analytical laboratory, accredited under the Environmental ELAP, for analysis. The soil gas results are summarized in Table 3 below and complete laboratory analytical reports are provided in Exhibit B for reference.

**Table 3: Soil Gas Sample Analytical Results for REC #02 – Vapor Intrusion Concerns**

| Sample ID | Boring Location | PCE (ug/m$^3$) | TCE (ug/m$^3$) | Cis-1,2-DCE (ug/m$^3$) | Trans-1,2-DCE (ug/m$^3$) | Vinyl Chloride (ug/m$^3$) | Other VOCs (ug/ m$^3$) |
|---|---|---|---|---|---|---|---|
| **SV1** | Northwestern corner of East 81st Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **SV2** | Northeastern corner of East 81st Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **SV3** | Southwestern corner of East 81st Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **SV4** | Southeastern corner of East 81st Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **SV5** | Northeastern portion of East 82nd Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **RL** | | **500** | **500** | **500** | **500** | **500** | **500** |
| **Commercial / Industrial Soil Gas Screening Level (Tier 1 ESLs)** | | **2,100** | **3,000** | **35,000** | **350,000** | **160** | **--** |
| **Residential (School) Soil Gas Screening Level (Tier 1 ESLs)** | | **240** | **240** | **4,200** | **42,000** | **4.7** | **--** |

ND - Not detected above laboratory Reporting Limits
NA – Not analyzed for this constituent
RL – Laboratory reporting Limit

### Table 3: Soil Gas Sample Analytical Results for REC #02 (Continued) – Vapor Intrusion Concerns

| Sample ID | Boring Location | PCE (ug/m$^3$) | TCE (ug/m$^3$) | Cis-1,2-DCE (ug/m$^3$) | Trans-1,2-DCE (ug/m$^3$) | Vinyl Chloride (ug/m$^3$) | Other VOCs (ug/ m$^3$) |
|---|---|---|---|---|---|---|---|
| **SV6** | Southeastern portion of East 82nd Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **SV7** | Northeastern portion of East 82nd Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **SV8** | Southeastern portion of East 82nd Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **SV9** | Northwestern portion of East 82nd Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **SV10** | Southwestern portion of East 82nd Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **SV11** | Northwestern portion of East 82nd Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **SV12** | Southwestern portion of East 82nd Street and Maie Avenue property | ND | ND | ND | ND | ND | ND |
| **RL** | ▨ | **500** | **500** | **500** | **500** | **500** | **500** |
| **Commercial / Industrial Soil Gas Screening Level (Tier 1 ESLs)** | | **2,100** | **3,000** | **35,000** | **350,000** | **160** | -- |
| **Residential (School) Soil Gas Screening Level (Tier 1 ESLs)** | | **240** | **240** | **4,200** | **42,000** | **4.7** | -- |

ND - Not detected above laboratory Reporting Limits
NA – Not analyzed for this constituent
RL – Laboratory reporting Limit

## 7.4 Soil Gas Sample Results Summary

ENCON submitted twelve (12) soil gas samples to a California State certified laboratory, C&E Laboratories, for analyses using proper sampling and chain-of-custody procedures. The soil gas samples were analyzed for organic and chlorinated solvent VOCs using EPA Method 8260B, to address RECs identified at the Subject Site from the former automotive repair operations and the potential vapor intrusion concern to the property. All of the soil gas sample data obtained from shallow soils at the Subject Site were below detection limits for VOCs (REC #02).

The soil gas results indicate that the Subject Site has not been impacted by the former automotive repair activities, and, therefore, potential Vapor Intrusion Concerns do not exist at the Subject Site.

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

The Subject Site has been fully investigated by ENCON Technologies, Inc. (ENCON) in accordance with the expanded site investigation and associated soil and soil gas sampling and analysis plan as presented in this ENCON Further Phase II ESA Report. The Subject Site Phase II ESA was completed employing the ASTM E1527-13 real estate due diligence guidelines and the current SSLs presented in the CalEPA California RWQCB Tier 1 ESLs and the RWQCB Interim Site Assessment & Cleanup Guidelines, dated May 1996.

The ENCON Phase II ESA Soil and Soil Gas Subsurface Investigation and the WEECO Limited Phase II ESA assessment have revealed no evidence of chemical affected soil or soil gas in connection with the Subject Site former automotive repair operations and former industrial manufacturing operations. In addition, the soil gas results indicate that the Subject Site was not adversely affected by the use of TPHo, VOC and PCB chemicals and no vapor intrusion conditions (VIC) exist beneath the Subject Site.

In addition, the metal compound soil data found in these tested areas were all within normal background ranges for Southern California, including the slightly elevated arsenic levels, ranging from 5.28 mg/kg to 7.71 mg/kg. These arsenic concentrations are above the Tier 1 ESL levels, however, the results are below the CalEPA DTSC's Arsenic Adjusted Background Concentration of 12 mg/kg. This adjusted background concentration is based on a statistical study of sites throughout Southern California and this adjusted arsenic concentration is used as a screening level for anthropogenic and naturally occurring levels of arsenic in soil in Southern California.

Therefore, it is the professional opinion of ENCON Technologies, Inc. that the Subject Site is suitable for the intended charter school use with no environmental limitations or restrictions and no further investigations are necessary at this time.

## 9.0 REPORT PREPARATION AND LIMITATIONS

This Phase II ESA Report was prepared for KLARE Holdings and its subsidiaries, Project Client and Potential Buyer, as it pertains to the property located at 1628-1638 East 81st Street, 1619-1659 East 82nd Street and 8151 South Maie Avenue in Los Angeles, California (Subject Site). The conclusions presented in this report were based upon the Phase I Environmental Site Assessment (ESA) performed by WEECO, and Phase II Environmental Site Assessment – Subsurface Soil and Soil Gas Investigation performed by ENCON in accordance with the ASTM E1527-13 site environmental assessment.

The consultant makes no guarantees as to the accuracy or completeness of information obtained from others. It is possible that information exists beyond the scope of this investigation. Additional information which was not available to Consultant at the time of writing the Report may result in a modification of the conclusions and recommendations presented.

The Services performed by the Consultant have been conducted in a manner consistent with the level of care ordinarily exercised by members of our profession currently practicing under similar conditions. This report is not a legal opinion, but may under certain circumstances be prepared at the direction of counsel, may be in anticipation of litigation, and may be classified as an attorney client communication or as an attorney-work product.

The findings in this report are based on field observations and analytical data provided by an independent laboratory. Interpretations of the subsurface conditions at the site were made from these observations and data as well as limited number of data points from soil borings. Subsurface conditions may vary from these data points.

If there are any questions regarding soil sample collection or soil analysis, please contact Joseph Scatoloni, Project Manager at (562) 777-2200.

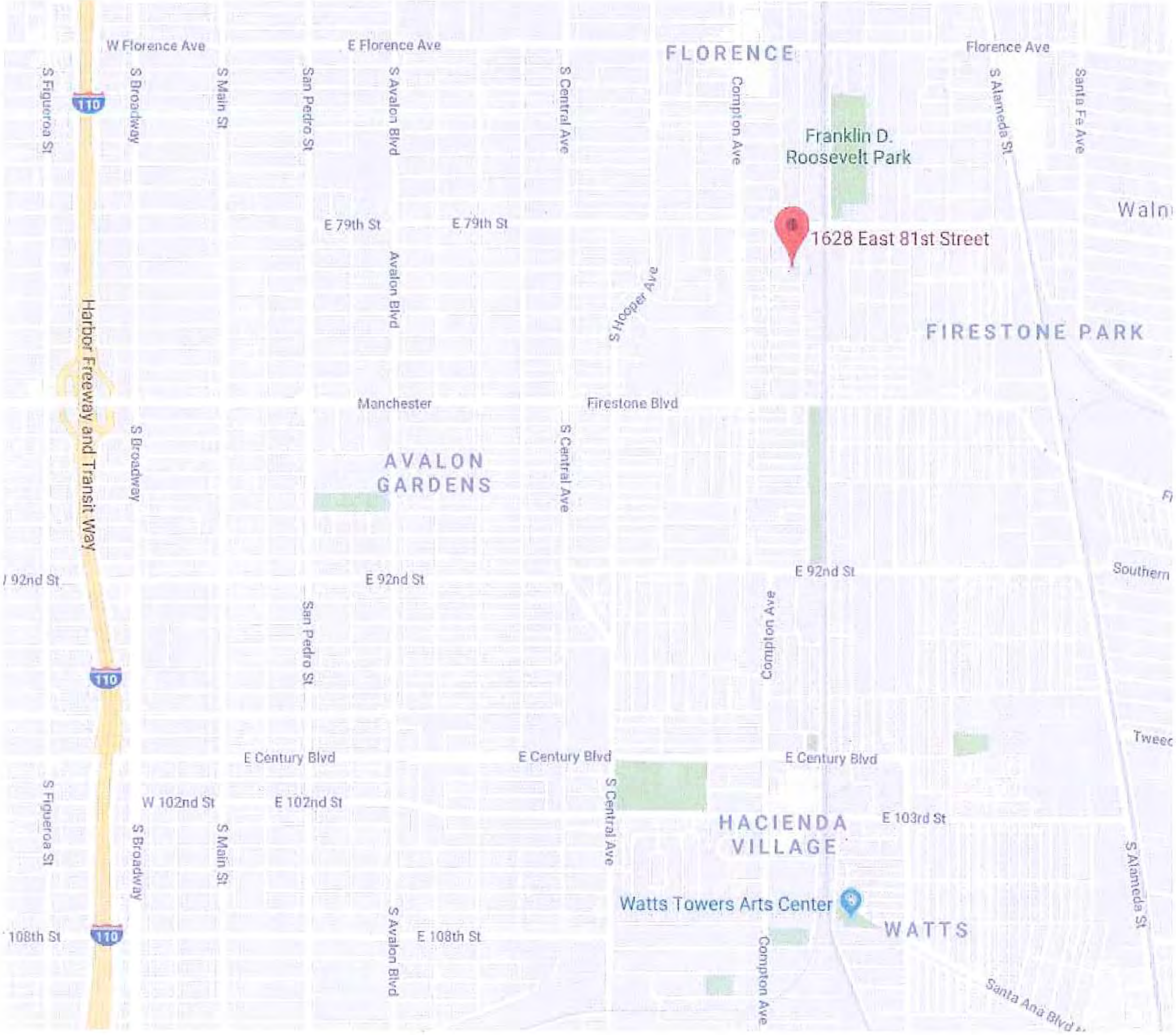
Respectfully submitted by,

ENCON Technologies, Inc.

G. Joseph Scatoloni, ENCON Principal
Senior Remedial Engineer & Project Manager
Environmental Professional and REA II #783394

REGISTERED ENVIRONMENTAL PROFESSIONAL
G. JOSEPH SCATOLONI
REP 783394
NREP

**FIGURES:**



**ENCON**
**Technologies, Inc.**

*12145 Mora Drive, Suite 7*
*Santa Fe Springs, CA 90670*

## *Site Vicinity Map*

***1628-1638 East 81st Street***
***1619-1659 East 82nd Street and***
***8151 South Maie Avenue***
***Los Angeles, California 90001***

**LEGEND**

☐ Subject Site Boundary Lines

↑ North

*Scale: NA*

**October 5, 2018**

**FIGURE 1**

① SITE PLAN
SCALE: 1"=35'-0"

0' 35' 70'
APPROXIMATE SCALE (11 X 17)

LEGEND

▨ PLANTER AREA
—•—•— FENCE/GATE
— PROPERTY LINE
🔵 SOIL VAPOR
🔴 SOIL BORING

ENCON TECHNOLOGIES INC.
12145 MORA DR. #7
SANTA FE SPRINGS, CA

CSLB#: 748576 A.Haz Exp: 4/30/20
DRAWN BY: DANIEL AYALA
DATE: 9/17/2018
SCALE: PER PLAN

1628 E. 81ST ST
LOS ANGELES, CA 90001

DRAWING: SAMPLING PLAN

SHEET: FIG.2

ENCON

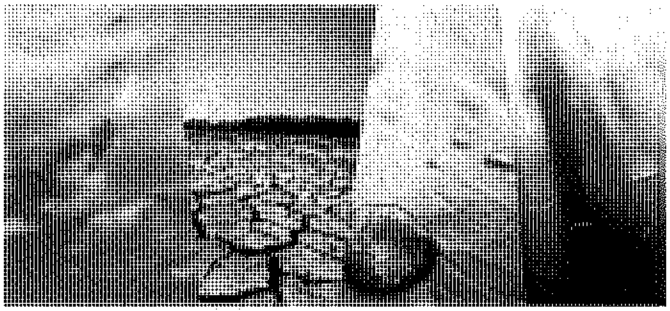
# Exhibit A

Eurofins CalScience Soil Analytical Report

eurofins | Calscience

# WORK ORDER NUMBER: 18-09-1514

*The difference is service*



AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** ENCON Technologies, Inc.
**Client Project Name:** 1628 East 81st Street
**Attention:** Joe Scatoloni
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

Don Burley

Approved for release on 09/27/2018 by:
Don Burley
Project Manager

Results link ▸

Email your PM ▸

# Contents

Client Project Name: 1628 East 81st Street
Work Order Number: 18-09-1514

# Work Order Narrative

Work Order: 18-09-1514 Page 1 of 1

## Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 09/20/18. They were assigned to Work Order 18-09-1514.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

## Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

## Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

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## Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

## Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

## DoD Projects:

The test results contained in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation ADE-1864.

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# Sample Summary

| | | | |
|---|---|---|---|
| Client: | ENCON Technologies, Inc.<br>12145 Mora Drive, Suite 7<br>Santa Fe Springs, CA 90670-6055 | Work Order: | 18-09-1514 |
| | | Project Name: | 1628 East 81st Street |
| | | PO Number: | |
| | | Date/Time Received: | 09/20/18 15:54 |
| | | Number of Containers: | 16 |
| Attn: | Joe Scatoloni | | |

| Sample Identification | Lab Number | Collection Date and Time | Number of Containers | Matrix |
|---|---|---|---|---|
| SB1-1 | 18-09-1514-1 | 09/20/18 11:20 | 1 | Solid |
| SB1-5 | 18-09-1514-2 | 09/20/18 11:25 | 1 | Solid |
| SB2-1 | 18-09-1514-3 | 09/20/18 11:00 | 1 | Solid |
| SB2-5 | 18-09-1514-4 | 09/20/18 11:05 | 1 | Solid |
| SB5-1 | 18-09-1514-5 | 09/20/18 12:05 | 1 | Solid |
| SB5-5 | 18-09-1514-6 | 09/20/18 12:10 | 1 | Solid |
| SB6-5 | 18-09-1514-7 | 09/20/18 12:27 | 1 | Solid |
| SB7-5 | 18-09-1514-8 | 09/20/18 13:57 | 1 | Solid |
| SB8-1 | 18-09-1514-9 | 09/20/18 12:35 | 1 | Solid |
| SB8-5 | 18-09-1514-10 | 09/20/18 12:41 | 1 | Solid |
| SB9-1 | 18-09-1514-11 | 09/20/18 13:36 | 1 | Solid |
| SB9-5 | 18-09-1514-12 | 09/20/18 13:42 | 1 | Solid |
| SB10-5 | 18-09-1514-13 | 09/20/18 12:55 | 1 | Solid |
| SB11-5 | 18-09-1514-14 | 09/20/18 13:26 | 1 | Solid |
| SB12-1 | 18-09-1514-15 | 09/20/18 13:06 | 1 | Solid |
| SB12-5 | 18-09-1514-16 | 09/20/18 13:11 | 1 | Solid |

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3550B |
| | | Method: | EPA 8015B (M) |
| | | Units: | mg/kg |
| Project: 1628 East 81st Street | | | Page 1 of 2 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB5-5** | **18-09-1514-6-A** | **09/20/18 12:10** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 13:11** | **180925B06** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Motor Oil | ND | 25 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 94 | 61-145 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SB6-5** | **18-09-1514-7-A** | **09/20/18 12:27** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 13:32** | **180925B06** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Motor Oil | ND | 25 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 89 | 61-145 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SB7-5** | **18-09-1514-8-A** | **09/20/18 13:57** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 13:52** | **180925B06** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Motor Oil | ND | 25 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 91 | 61-145 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SB8-5** | **18-09-1514-10-A** | **09/20/18 12:41** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 14:13** | **180925B06** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Motor Oil | ND | 25 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 95 | 61-145 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SB9-5** | **18-09-1514-12-A** | **09/20/18 13:42** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 14:34** | **180925B06** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Motor Oil | ND | 25 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 92 | 61-145 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

| | |
|---|---|
| Date Received: | 09/20/18 |
| Work Order: | 18-09-1514 |
| Preparation: | EPA 3550B |
| Method: | EPA 8015B (M) |
| Units: | mg/kg |

Project: 1628 East 81st Street

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| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB10-5** | **18-09-1514-13-A** | **09/20/18 12:55** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 14:55** | **180925B06** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Motor Oil | ND | 25 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 93 | 61-145 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB11-5** | **18-09-1514-14-A** | **09/20/18 13:26** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 15:16** | **180925B06** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Motor Oil | ND | 25 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 91 | 61-145 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB12-5** | **18-09-1514-16-A** | **09/20/18 13:11** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 15:37** | **180925B06** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Motor Oil | ND | 25 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 93 | 61-145 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-15-420-2942** | **N/A** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 10:26** | **180925B06** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Motor Oil | ND | 25 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 95 | 61-145 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| | | Units: | mg/kg |
| Project: 1628 East 81st Street | | | Page 1 of 7 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB1-5** | **18-09-1514-2-A** | **09/20/18 11:25** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 20:08** | **180924L02** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.718 | 0.957 | |
| Arsenic | 6.49 | 0.718 | 0.957 | |
| Barium | 158 | 0.478 | 0.957 | |
| Beryllium | 0.619 | 0.239 | 0.957 | |
| Cadmium | 0.859 | 0.478 | 0.957 | |
| Chromium | 16.0 | 0.239 | 0.957 | |
| Cobalt | 9.89 | 0.239 | 0.957 | |
| Copper | 17.1 | 0.478 | 0.957 | |
| Lead | ND | 0.478 | 0.957 | |
| Molybdenum | ND | 0.239 | 0.957 | |
| Nickel | 12.4 | 0.239 | 0.957 | |
| Selenium | ND | 0.718 | 0.957 | |
| Silver | ND | 0.239 | 0.957 | |
| Thallium | 1.20 | 0.718 | 0.957 | |
| Vanadium | 34.2 | 0.239 | 0.957 | |
| Zinc | 49.0 | 0.957 | 0.957 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| | | Units: | mg/kg |
| Project: 1628 East 81st Street | | | Page 2 of 7 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB2-5** | **18-09-1514-4-A** | **09/20/18 11:05** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 20:12** | **180924L02** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.746 | 0.995 | |
| Arsenic | 7.04 | 0.746 | 0.995 | |
| Barium | 133 | 0.498 | 0.995 | |
| Beryllium | 0.594 | 0.249 | 0.995 | |
| Cadmium | 0.633 | 0.498 | 0.995 | |
| Chromium | 15.2 | 0.249 | 0.995 | |
| Cobalt | 9.70 | 0.249 | 0.995 | |
| Copper | 15.0 | 0.498 | 0.995 | |
| Lead | ND | 0.498 | 0.995 | |
| Molybdenum | ND | 0.249 | 0.995 | |
| Nickel | 11.0 | 0.249 | 0.995 | |
| Selenium | ND | 0.746 | 0.995 | |
| Silver | ND | 0.249 | 0.995 | |
| Thallium | ND | 0.746 | 0.995 | |
| Vanadium | 36.3 | 0.249 | 0.995 | |
| Zinc | 46.8 | 0.995 | 0.995 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| | | Units: | mg/kg |
| Project: 1628 East 81st Street | | | Page 3 of 7 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB5-5** | **18-09-1514-6-A** | **09/20/18 12:10** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 20:14** | **180924L02** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.769 | 1.03 | |
| Arsenic | 5.97 | 0.769 | 1.03 | |
| Barium | 108 | 0.513 | 1.03 | |
| Beryllium | 0.527 | 0.256 | 1.03 | |
| Cadmium | 0.575 | 0.513 | 1.03 | |
| Chromium | 14.8 | 0.256 | 1.03 | |
| Cobalt | 9.84 | 0.256 | 1.03 | |
| Copper | 12.9 | 0.513 | 1.03 | |
| Lead | ND | 0.513 | 1.03 | |
| Molybdenum | ND | 0.256 | 1.03 | |
| Nickel | 10.1 | 0.256 | 1.03 | |
| Selenium | ND | 0.769 | 1.03 | |
| Silver | ND | 0.256 | 1.03 | |
| Thallium | 1.04 | 0.769 | 1.03 | |
| Vanadium | 34.2 | 0.256 | 1.03 | |
| Zinc | 47.2 | 1.03 | 1.03 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

| | |
|---|---|
| Date Received: | 09/20/18 |
| Work Order: | 18-09-1514 |
| Preparation: | EPA 3050B |
| Method: | EPA 6010B |
| Units: | mg/kg |

Project: 1628 East 81st Street

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB8-5** | **18-09-1514-10-A** | **09/20/18 12:41** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 20:16** | **180924L02** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.758 | 1.01 | |
| Arsenic | 6.40 | 0.758 | 1.01 | |
| Barium | 117 | 0.505 | 1.01 | |
| Beryllium | 0.626 | 0.253 | 1.01 | |
| Cadmium | 0.785 | 0.505 | 1.01 | |
| Chromium | 16.4 | 0.253 | 1.01 | |
| Cobalt | 9.57 | 0.253 | 1.01 | |
| Copper | 16.6 | 0.505 | 1.01 | |
| Lead | ND | 0.505 | 1.01 | |
| Molybdenum | ND | 0.253 | 1.01 | |
| Nickel | 13.3 | 0.253 | 1.01 | |
| Selenium | ND | 0.758 | 1.01 | |
| Silver | ND | 0.253 | 1.01 | |
| Thallium | 0.873 | 0.758 | 1.01 | |
| Vanadium | 35.1 | 0.253 | 1.01 | |
| Zinc | 50.0 | 1.01 | 1.01 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| | | Units: | mg/kg |
| Project: 1628 East 81st Street | | | Page 5 of 7 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB9-5** | **18-09-1514-12-A** | **09/20/18 13:42** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 20:17** | **180924L02** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.765 | 1.02 | |
| Arsenic | 7.71 | 0.765 | 1.02 | |
| Barium | 162 | 0.510 | 1.02 | |
| Beryllium | 0.750 | 0.255 | 1.02 | |
| Cadmium | 1.07 | 0.510 | 1.02 | |
| Chromium | 20.3 | 0.255 | 1.02 | |
| Cobalt | 11.6 | 0.255 | 1.02 | |
| Copper | 24.4 | 0.510 | 1.02 | |
| Lead | ND | 0.510 | 1.02 | |
| Molybdenum | 0.265 | 0.255 | 1.02 | |
| Nickel | 17.9 | 0.255 | 1.02 | |
| Selenium | ND | 0.765 | 1.02 | |
| Silver | ND | 0.255 | 1.02 | |
| Thallium | 1.19 | 0.765 | 1.02 | |
| Vanadium | 43.2 | 0.255 | 1.02 | |
| Zinc | 60.7 | 1.02 | 1.02 | |

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RL: Reporting Limit.    DF: Dilution Factor.    MDL: Method Detection Limit.

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

Date Received: 09/20/18
Work Order: 18-09-1514
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: 1628 East 81st Street

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB12-5** | **18-09-1514-16-A** | **09/20/18 13:11** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 20:19** | **180924L02** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.761 | 1.02 | |
| Arsenic | 5.28 | 0.761 | 1.02 | |
| Barium | 97.6 | 0.508 | 1.02 | |
| Beryllium | 0.491 | 0.254 | 1.02 | |
| Cadmium | 0.525 | 0.508 | 1.02 | |
| Chromium | 12.5 | 0.254 | 1.02 | |
| Cobalt | 8.32 | 0.254 | 1.02 | |
| Copper | 11.5 | 0.508 | 1.02 | |
| Lead | ND | 0.508 | 1.02 | |
| Molybdenum | ND | 0.254 | 1.02 | |
| Nickel | 9.53 | 0.254 | 1.02 | |
| Selenium | ND | 0.761 | 1.02 | |
| Silver | ND | 0.254 | 1.02 | |
| Thallium | ND | 0.761 | 1.02 | |
| Vanadium | 29.7 | 0.254 | 1.02 | |
| Zinc | 41.0 | 1.02 | 1.02 | |

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| | | Units: | mg/kg |
| Project: 1628 East 81st Street | | | Page 7 of 7 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **097-01-002-27012** | **N/A** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 19:53** | **180924L02** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.746 | 0.995 | |
| Arsenic | ND | 0.746 | 0.995 | |
| Barium | ND | 0.498 | 0.995 | |
| Beryllium | ND | 0.249 | 0.995 | |
| Cadmium | ND | 0.498 | 0.995 | |
| Chromium | ND | 0.249 | 0.995 | |
| Cobalt | ND | 0.249 | 0.995 | |
| Copper | ND | 0.498 | 0.995 | |
| Lead | ND | 0.498 | 0.995 | |
| Molybdenum | ND | 0.249 | 0.995 | |
| Nickel | ND | 0.249 | 0.995 | |
| Selenium | ND | 0.746 | 0.995 | |
| Silver | ND | 0.249 | 0.995 | |
| Thallium | ND | 0.746 | 0.995 | |
| Vanadium | ND | 0.249 | 0.995 | |
| Zinc | ND | 0.995 | 0.995 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

|  |  |
|---|---|
| Date Received: | 09/20/18 |
| Work Order: | 18-09-1514 |
| Preparation: | EPA 7471A Total |
| Method: | EPA 7471A |
| Units: | mg/kg |

Project: 1628 East 81st Street

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| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB1-5** | **18-09-1514-2-A** | **09/20/18 11:25** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:29** | **180924L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0847 | 1.00 |  |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB2-5** | **18-09-1514-4-A** | **09/20/18 11:05** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:31** | **180924L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0833 | 1.00 |  |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB5-5** | **18-09-1514-6-A** | **09/20/18 12:10** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:22** | **180924L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0820 | 1.00 |  |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB8-5** | **18-09-1514-10-A** | **09/20/18 12:41** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:34** | **180924L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0820 | 1.00 |  |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB9-5** | **18-09-1514-12-A** | **09/20/18 13:42** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:36** | **180924L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0820 | 1.00 |  |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB12-5** | **18-09-1514-16-A** | **09/20/18 13:11** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:38** | **180924L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0877 | 1.00 |  |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-16-272-4155** | **N/A** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:18** | **180924L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0820 | 1.00 |  |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

|  |  |  |
|---|---|---|
| ENCON Technologies, Inc. | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | Preparation: | EPA 3545 |
|  | Method: | EPA 8082 |
|  | Units: | ug/kg |

Project: 1628 East 81st Street

Page 1 of 4

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB1-1** | **18-09-1514-1-A** | **09/20/18 11:20** | **Solid** | **GC 58** | **09/21/18** | **09/24/18 18:24** | **180921L08** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 49 | 1.00 |  |
| Aroclor-1221 | ND | 49 | 1.00 |  |
| Aroclor-1232 | ND | 49 | 1.00 |  |
| Aroclor-1242 | ND | 49 | 1.00 |  |
| Aroclor-1248 | ND | 49 | 1.00 |  |
| Aroclor-1254 | ND | 49 | 1.00 |  |
| Aroclor-1260 | ND | 49 | 1.00 |  |
| Aroclor-1262 | ND | 49 | 1.00 |  |
| Aroclor-1268 | ND | 49 | 1.00 |  |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 62 | 24-168 |  |
| 2,4,5,6-Tetrachloro-m-Xylene | 65 | 25-145 |  |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB2-1** | **18-09-1514-3-A** | **09/20/18 11:00** | **Solid** | **GC 58** | **09/21/18** | **09/24/18 18:42** | **180921L08** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 49 | 1.00 |  |
| Aroclor-1221 | ND | 49 | 1.00 |  |
| Aroclor-1232 | ND | 49 | 1.00 |  |
| Aroclor-1242 | ND | 49 | 1.00 |  |
| Aroclor-1248 | ND | 49 | 1.00 |  |
| Aroclor-1254 | ND | 49 | 1.00 |  |
| Aroclor-1260 | ND | 49 | 1.00 |  |
| Aroclor-1262 | ND | 49 | 1.00 |  |
| Aroclor-1268 | ND | 49 | 1.00 |  |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 32 | 24-168 |  |
| 2,4,5,6-Tetrachloro-m-Xylene | 33 | 25-145 |  |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

Project: 1628 East 81st Street

Date Received: 09/20/18
Work Order: 18-09-1514
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB5-1** | **18-09-1514-5-A** | **09/20/18 12:05** | **Solid** | **GC 58** | **09/21/18** | **09/24/18 19:00** | **180921L08** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 50 | 1.00 | |
| Aroclor-1221 | ND | 50 | 1.00 | |
| Aroclor-1232 | ND | 50 | 1.00 | |
| Aroclor-1242 | ND | 50 | 1.00 | |
| Aroclor-1248 | ND | 50 | 1.00 | |
| Aroclor-1254 | ND | 50 | 1.00 | |
| Aroclor-1260 | ND | 50 | 1.00 | |
| Aroclor-1262 | ND | 50 | 1.00 | |
| Aroclor-1268 | ND | 50 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 93 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 96 | 25-145 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB8-1** | **18-09-1514-9-A** | **09/20/18 12:35** | **Solid** | **GC 58** | **09/25/18** | **09/26/18 18:07** | **180925L10** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 50 | 1.00 | |
| Aroclor-1221 | ND | 50 | 1.00 | |
| Aroclor-1232 | ND | 50 | 1.00 | |
| Aroclor-1242 | ND | 50 | 1.00 | |
| Aroclor-1248 | ND | 50 | 1.00 | |
| Aroclor-1254 | ND | 50 | 1.00 | |
| Aroclor-1260 | ND | 50 | 1.00 | |
| Aroclor-1262 | ND | 50 | 1.00 | |
| Aroclor-1268 | ND | 50 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 94 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 100 | 25-145 | |

Return to Contents

# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 3 of 4 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB9-1** | **18-09-1514-11-A** | **09/20/18 13:36** | **Solid** | **GC 58** | **09/21/18** | **09/24/18 19:36** | **180921L08** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 49 | 1.00 | |
| Aroclor-1221 | ND | 49 | 1.00 | |
| Aroclor-1232 | ND | 49 | 1.00 | |
| Aroclor-1242 | ND | 49 | 1.00 | |
| Aroclor-1248 | ND | 49 | 1.00 | |
| Aroclor-1254 | ND | 49 | 1.00 | |
| Aroclor-1260 | ND | 49 | 1.00 | |
| Aroclor-1262 | ND | 49 | 1.00 | |
| Aroclor-1268 | ND | 49 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 91 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 85 | 25-145 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB12-1** | **18-09-1514-15-A** | **09/20/18 13:06** | **Solid** | **GC 58** | **09/21/18** | **09/24/18 19:54** | **180921L08** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 49 | 1.00 | |
| Aroclor-1221 | ND | 49 | 1.00 | |
| Aroclor-1232 | ND | 49 | 1.00 | |
| Aroclor-1242 | ND | 49 | 1.00 | |
| Aroclor-1248 | ND | 49 | 1.00 | |
| Aroclor-1254 | ND | 49 | 1.00 | |
| Aroclor-1260 | ND | 49 | 1.00 | |
| Aroclor-1262 | ND | 49 | 1.00 | |
| Aroclor-1268 | ND | 49 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 81 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 80 | 25-145 | |

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 4 of 4 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-12-535-4893** | **N/A** | **Solid** | **GC 58** | **09/21/18** | **09/24/18 10:37** | **180921L08** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 50 | 1.00 | |
| Aroclor-1221 | ND | 50 | 1.00 | |
| Aroclor-1232 | ND | 50 | 1.00 | |
| Aroclor-1242 | ND | 50 | 1.00 | |
| Aroclor-1248 | ND | 50 | 1.00 | |
| Aroclor-1254 | ND | 50 | 1.00 | |
| Aroclor-1260 | ND | 50 | 1.00 | |
| Aroclor-1262 | ND | 50 | 1.00 | |
| Aroclor-1268 | ND | 50 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 90 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 96 | 25-145 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-12-535-4902** | **N/A** | **Solid** | **GC 58** | **09/25/18** | **09/26/18 12:41** | **180925L10** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 50 | 1.00 | |
| Aroclor-1221 | ND | 50 | 1.00 | |
| Aroclor-1232 | ND | 50 | 1.00 | |
| Aroclor-1242 | ND | 50 | 1.00 | |
| Aroclor-1248 | ND | 50 | 1.00 | |
| Aroclor-1254 | ND | 50 | 1.00 | |
| Aroclor-1260 | ND | 50 | 1.00 | |
| Aroclor-1262 | ND | 50 | 1.00 | |
| Aroclor-1268 | ND | 50 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 88 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 99 | 25-145 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 1 of 18 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB5-5** | **18-09-1514-6-A** | **09/20/18 12:10** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 14:44** | **180925L007** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 120 | 1.00 | |
| Benzene | ND | 5.0 | 1.00 | |
| Bromobenzene | ND | 5.0 | 1.00 | |
| Bromochloromethane | ND | 5.0 | 1.00 | |
| Bromodichloromethane | ND | 5.0 | 1.00 | |
| Bromoform | ND | 5.0 | 1.00 | |
| Bromomethane | ND | 25 | 1.00 | |
| 2-Butanone | ND | 50 | 1.00 | |
| n-Butylbenzene | ND | 5.0 | 1.00 | |
| sec-Butylbenzene | ND | 5.0 | 1.00 | |
| tert-Butylbenzene | ND | 5.0 | 1.00 | |
| Carbon Disulfide | ND | 50 | 1.00 | |
| Carbon Tetrachloride | ND | 5.0 | 1.00 | |
| Chlorobenzene | ND | 5.0 | 1.00 | |
| Chloroethane | ND | 5.0 | 1.00 | |
| Chloroform | ND | 5.0 | 1.00 | |
| Chloromethane | ND | 25 | 1.00 | |
| 2-Chlorotoluene | ND | 5.0 | 1.00 | |
| 4-Chlorotoluene | ND | 5.0 | 1.00 | |
| Dibromochloromethane | ND | 5.0 | 1.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | 1.00 | |
| 1,2-Dibromoethane | ND | 5.0 | 1.00 | |
| Dibromomethane | ND | 5.0 | 1.00 | |
| 1,2-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,3-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,4-Dichlorobenzene | ND | 5.0 | 1.00 | |
| Dichlorodifluoromethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,2-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethene | ND | 5.0 | 1.00 | |
| c-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| t-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| 1,2-Dichloropropane | ND | 5.0 | 1.00 | |
| 1,3-Dichloropropane | ND | 5.0 | 1.00 | |
| 2,2-Dichloropropane | ND | 5.0 | 1.00 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 2 of 18 |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 5.0 | 1.00 | |
| c-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| t-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| Ethylbenzene | ND | 5.0 | 1.00 | |
| 2-Hexanone | ND | 50 | 1.00 | |
| Isopropylbenzene | ND | 5.0 | 1.00 | |
| p-Isopropyltoluene | ND | 5.0 | 1.00 | |
| Methylene Chloride | ND | 50 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 50 | 1.00 | |
| Naphthalene | ND | 50 | 1.00 | |
| n-Propylbenzene | ND | 5.0 | 1.00 | |
| Styrene | ND | 5.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| Tetrachloroethene | ND | 5.0 | 1.00 | |
| Toluene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 10 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50 | 1.00 | |
| Trichloroethene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Trichlorofluoromethane | ND | 50 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Vinyl Acetate | ND | 50 | 1.00 | |
| Vinyl Chloride | ND | 5.0 | 1.00 | |
| p/m-Xylene | ND | 5.0 | 1.00 | |
| o-Xylene | ND | 5.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 5.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 93 | 80-120 | |
| Dibromofluoromethane | 93 | 79-133 | |
| 1,2-Dichloroethane-d4 | 99 | 71-155 | |
| Toluene-d8 | 98 | 80-120 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 3 of 18 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB6-5** | **18-09-1514-7-A** | **09/20/18 12:27** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 18:49** | **180925L007** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 120 | 1.00 | |
| Benzene | ND | 5.0 | 1.00 | |
| Bromobenzene | ND | 5.0 | 1.00 | |
| Bromochloromethane | ND | 5.0 | 1.00 | |
| Bromodichloromethane | ND | 5.0 | 1.00 | |
| Bromoform | ND | 5.0 | 1.00 | |
| Bromomethane | ND | 25 | 1.00 | |
| 2-Butanone | ND | 50 | 1.00 | |
| n-Butylbenzene | ND | 5.0 | 1.00 | |
| sec-Butylbenzene | ND | 5.0 | 1.00 | |
| tert-Butylbenzene | ND | 5.0 | 1.00 | |
| Carbon Disulfide | ND | 50 | 1.00 | |
| Carbon Tetrachloride | ND | 5.0 | 1.00 | |
| Chlorobenzene | ND | 5.0 | 1.00 | |
| Chloroethane | ND | 5.0 | 1.00 | |
| Chloroform | ND | 5.0 | 1.00 | |
| Chloromethane | ND | 25 | 1.00 | |
| 2-Chlorotoluene | ND | 5.0 | 1.00 | |
| 4-Chlorotoluene | ND | 5.0 | 1.00 | |
| Dibromochloromethane | ND | 5.0 | 1.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | 1.00 | |
| 1,2-Dibromoethane | ND | 5.0 | 1.00 | |
| Dibromomethane | ND | 5.0 | 1.00 | |
| 1,2-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,3-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,4-Dichlorobenzene | ND | 5.0 | 1.00 | |
| Dichlorodifluoromethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,2-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethene | ND | 5.0 | 1.00 | |
| c-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| t-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| 1,2-Dichloropropane | ND | 5.0 | 1.00 | |
| 1,3-Dichloropropane | ND | 5.0 | 1.00 | |
| 2,2-Dichloropropane | ND | 5.0 | 1.00 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

| | | |
|---|---|---|
| ENCON Technologies, Inc. | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | Preparation: | EPA 5030C |
| | Method: | EPA 8260B |
| | Units: | ug/kg |
| Project: 1628 East 81st Street | | Page 4 of 18 |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 5.0 | 1.00 | |
| c-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| t-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| Ethylbenzene | ND | 5.0 | 1.00 | |
| 2-Hexanone | ND | 50 | 1.00 | |
| Isopropylbenzene | ND | 5.0 | 1.00 | |
| p-Isopropyltoluene | ND | 5.0 | 1.00 | |
| Methylene Chloride | ND | 50 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 50 | 1.00 | |
| Naphthalene | ND | 50 | 1.00 | |
| n-Propylbenzene | ND | 5.0 | 1.00 | |
| Styrene | ND | 5.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| Tetrachloroethene | ND | 5.0 | 1.00 | |
| Toluene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 10 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50 | 1.00 | |
| Trichloroethene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Trichlorofluoromethane | ND | 50 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Vinyl Acetate | ND | 50 | 1.00 | |
| Vinyl Chloride | ND | 5.0 | 1.00 | |
| p/m-Xylene | ND | 5.0 | 1.00 | |
| o-Xylene | ND | 5.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 5.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 93 | 80-120 | |
| Dibromofluoromethane | 94 | 79-133 | |
| 1,2-Dichloroethane-d4 | 100 | 71-155 | |
| Toluene-d8 | 98 | 80-120 | |

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 5 of 18 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB7-5** | **18-09-1514-8-A** | **09/20/18 13:57** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 19:16** | **180925L007** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 120 | 1.00 | |
| Benzene | ND | 5.0 | 1.00 | |
| Bromobenzene | ND | 5.0 | 1.00 | |
| Bromochloromethane | ND | 5.0 | 1.00 | |
| Bromodichloromethane | ND | 5.0 | 1.00 | |
| Bromoform | ND | 5.0 | 1.00 | |
| Bromomethane | ND | 25 | 1.00 | |
| 2-Butanone | ND | 50 | 1.00 | |
| n-Butylbenzene | ND | 5.0 | 1.00 | |
| sec-Butylbenzene | ND | 5.0 | 1.00 | |
| tert-Butylbenzene | ND | 5.0 | 1.00 | |
| Carbon Disulfide | ND | 50 | 1.00 | |
| Carbon Tetrachloride | ND | 5.0 | 1.00 | |
| Chlorobenzene | ND | 5.0 | 1.00 | |
| Chloroethane | ND | 5.0 | 1.00 | |
| Chloroform | ND | 5.0 | 1.00 | |
| Chloromethane | ND | 25 | 1.00 | |
| 2-Chlorotoluene | ND | 5.0 | 1.00 | |
| 4-Chlorotoluene | ND | 5.0 | 1.00 | |
| Dibromochloromethane | ND | 5.0 | 1.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | 1.00 | |
| 1,2-Dibromoethane | ND | 5.0 | 1.00 | |
| Dibromomethane | ND | 5.0 | 1.00 | |
| 1,2-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,3-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,4-Dichlorobenzene | ND | 5.0 | 1.00 | |
| Dichlorodifluoromethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,2-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethene | ND | 5.0 | 1.00 | |
| c-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| t-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| 1,2-Dichloropropane | ND | 5.0 | 1.00 | |
| 1,3-Dichloropropane | ND | 5.0 | 1.00 | |
| 2,2-Dichloropropane | ND | 5.0 | 1.00 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 6 of 18 |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 5.0 | 1.00 | |
| c-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| t-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| Ethylbenzene | ND | 5.0 | 1.00 | |
| 2-Hexanone | ND | 50 | 1.00 | |
| Isopropylbenzene | ND | 5.0 | 1.00 | |
| p-Isopropyltoluene | ND | 5.0 | 1.00 | |
| Methylene Chloride | ND | 50 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 50 | 1.00 | |
| Naphthalene | ND | 50 | 1.00 | |
| n-Propylbenzene | ND | 5.0 | 1.00 | |
| Styrene | ND | 5.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| Tetrachloroethene | ND | 5.0 | 1.00 | |
| Toluene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 10 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50 | 1.00 | |
| Trichloroethene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Trichlorofluoromethane | ND | 50 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Vinyl Acetate | ND | 50 | 1.00 | |
| Vinyl Chloride | ND | 5.0 | 1.00 | |
| p/m-Xylene | ND | 5.0 | 1.00 | |
| o-Xylene | ND | 5.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 5.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 92 | 80-120 | |
| Dibromofluoromethane | 93 | 79-133 | |
| 1,2-Dichloroethane-d4 | 100 | 71-155 | |
| Toluene-d8 | 98 | 80-120 | |

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 7 of 18 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB8-5** | **18-09-1514-10-A** | **09/20/18 12:41** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 19:44** | **180925L007** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 120 | 1.00 | |
| Benzene | ND | 5.0 | 1.00 | |
| Bromobenzene | ND | 5.0 | 1.00 | |
| Bromochloromethane | ND | 5.0 | 1.00 | |
| Bromodichloromethane | ND | 5.0 | 1.00 | |
| Bromoform | ND | 5.0 | 1.00 | |
| Bromomethane | ND | 25 | 1.00 | |
| 2-Butanone | ND | 50 | 1.00 | |
| n-Butylbenzene | ND | 5.0 | 1.00 | |
| sec-Butylbenzene | ND | 5.0 | 1.00 | |
| tert-Butylbenzene | ND | 5.0 | 1.00 | |
| Carbon Disulfide | ND | 50 | 1.00 | |
| Carbon Tetrachloride | ND | 5.0 | 1.00 | |
| Chlorobenzene | ND | 5.0 | 1.00 | |
| Chloroethane | ND | 5.0 | 1.00 | |
| Chloroform | ND | 5.0 | 1.00 | |
| Chloromethane | ND | 25 | 1.00 | |
| 2-Chlorotoluene | ND | 5.0 | 1.00 | |
| 4-Chlorotoluene | ND | 5.0 | 1.00 | |
| Dibromochloromethane | ND | 5.0 | 1.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | 1.00 | |
| 1,2-Dibromoethane | ND | 5.0 | 1.00 | |
| Dibromomethane | ND | 5.0 | 1.00 | |
| 1,2-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,3-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,4-Dichlorobenzene | ND | 5.0 | 1.00 | |
| Dichlorodifluoromethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,2-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethene | ND | 5.0 | 1.00 | |
| c-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| t-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| 1,2-Dichloropropane | ND | 5.0 | 1.00 | |
| 1,3-Dichloropropane | ND | 5.0 | 1.00 | |
| 2,2-Dichloropropane | ND | 5.0 | 1.00 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 8 of 18 |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 5.0 | 1.00 | |
| c-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| t-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| Ethylbenzene | ND | 5.0 | 1.00 | |
| 2-Hexanone | ND | 50 | 1.00 | |
| Isopropylbenzene | ND | 5.0 | 1.00 | |
| p-Isopropyltoluene | ND | 5.0 | 1.00 | |
| Methylene Chloride | ND | 50 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 50 | 1.00 | |
| Naphthalene | ND | 50 | 1.00 | |
| n-Propylbenzene | ND | 5.0 | 1.00 | |
| Styrene | ND | 5.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| Tetrachloroethene | ND | 5.0 | 1.00 | |
| Toluene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 10 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50 | 1.00 | |
| Trichloroethene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Trichlorofluoromethane | ND | 50 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Vinyl Acetate | ND | 50 | 1.00 | |
| Vinyl Chloride | ND | 5.0 | 1.00 | |
| p/m-Xylene | ND | 5.0 | 1.00 | |
| o-Xylene | ND | 5.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 5.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 92 | 80-120 | |
| Dibromofluoromethane | 91 | 79-133 | |
| 1,2-Dichloroethane-d4 | 103 | 71-155 | |
| Toluene-d8 | 98 | 80-120 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

Date Received: 09/20/18
Work Order: 18-09-1514
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: 1628 East 81st Street

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB9-5** | **18-09-1514-12-A** | **09/20/18 13:42** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 20:11** | **180925L007** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 120 | 1.00 | |
| Benzene | ND | 5.0 | 1.00 | |
| Bromobenzene | ND | 5.0 | 1.00 | |
| Bromochloromethane | ND | 5.0 | 1.00 | |
| Bromodichloromethane | ND | 5.0 | 1.00 | |
| Bromoform | ND | 5.0 | 1.00 | |
| Bromomethane | ND | 25 | 1.00 | |
| 2-Butanone | ND | 50 | 1.00 | |
| n-Butylbenzene | ND | 5.0 | 1.00 | |
| sec-Butylbenzene | ND | 5.0 | 1.00 | |
| tert-Butylbenzene | ND | 5.0 | 1.00 | |
| Carbon Disulfide | ND | 50 | 1.00 | |
| Carbon Tetrachloride | ND | 5.0 | 1.00 | |
| Chlorobenzene | ND | 5.0 | 1.00 | |
| Chloroethane | ND | 5.0 | 1.00 | |
| Chloroform | ND | 5.0 | 1.00 | |
| Chloromethane | ND | 25 | 1.00 | |
| 2-Chlorotoluene | ND | 5.0 | 1.00 | |
| 4-Chlorotoluene | ND | 5.0 | 1.00 | |
| Dibromochloromethane | ND | 5.0 | 1.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 9.9 | 1.00 | |
| 1,2-Dibromoethane | ND | 5.0 | 1.00 | |
| Dibromomethane | ND | 5.0 | 1.00 | |
| 1,2-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,3-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,4-Dichlorobenzene | ND | 5.0 | 1.00 | |
| Dichlorodifluoromethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,2-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethene | ND | 5.0 | 1.00 | |
| c-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| t-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| 1,2-Dichloropropane | ND | 5.0 | 1.00 | |
| 1,3-Dichloropropane | ND | 5.0 | 1.00 | |
| 2,2-Dichloropropane | ND | 5.0 | 1.00 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 10 of 18 |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 5.0 | 1.00 | |
| c-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| t-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| Ethylbenzene | ND | 5.0 | 1.00 | |
| 2-Hexanone | ND | 50 | 1.00 | |
| Isopropylbenzene | ND | 5.0 | 1.00 | |
| p-Isopropyltoluene | ND | 5.0 | 1.00 | |
| Methylene Chloride | ND | 50 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 50 | 1.00 | |
| Naphthalene | ND | 50 | 1.00 | |
| n-Propylbenzene | ND | 5.0 | 1.00 | |
| Styrene | ND | 5.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| Tetrachloroethene | ND | 5.0 | 1.00 | |
| Toluene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 9.9 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50 | 1.00 | |
| Trichloroethene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Trichlorofluoromethane | ND | 50 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Vinyl Acetate | ND | 50 | 1.00 | |
| Vinyl Chloride | ND | 5.0 | 1.00 | |
| p/m-Xylene | ND | 5.0 | 1.00 | |
| o-Xylene | ND | 5.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 5.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 91 | 80-120 | |
| Dibromofluoromethane | 95 | 79-133 | |
| 1,2-Dichloroethane-d4 | 103 | 71-155 | |
| Toluene-d8 | 98 | 80-120 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 11 of 18 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB10-5** | **18-09-1514-13-A** | **09/20/18 12:55** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 20:38** | **180925L007** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 120 | 1.00 | |
| Benzene | ND | 5.0 | 1.00 | |
| Bromobenzene | ND | 5.0 | 1.00 | |
| Bromochloromethane | ND | 5.0 | 1.00 | |
| Bromodichloromethane | ND | 5.0 | 1.00 | |
| Bromoform | ND | 5.0 | 1.00 | |
| Bromomethane | ND | 25 | 1.00 | |
| 2-Butanone | ND | 50 | 1.00 | |
| n-Butylbenzene | ND | 5.0 | 1.00 | |
| sec-Butylbenzene | ND | 5.0 | 1.00 | |
| tert-Butylbenzene | ND | 5.0 | 1.00 | |
| Carbon Disulfide | ND | 50 | 1.00 | |
| Carbon Tetrachloride | ND | 5.0 | 1.00 | |
| Chlorobenzene | ND | 5.0 | 1.00 | |
| Chloroethane | ND | 5.0 | 1.00 | |
| Chloroform | ND | 5.0 | 1.00 | |
| Chloromethane | ND | 25 | 1.00 | |
| 2-Chlorotoluene | ND | 5.0 | 1.00 | |
| 4-Chlorotoluene | ND | 5.0 | 1.00 | |
| Dibromochloromethane | ND | 5.0 | 1.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | 1.00 | |
| 1,2-Dibromoethane | ND | 5.0 | 1.00 | |
| Dibromomethane | ND | 5.0 | 1.00 | |
| 1,2-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,3-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,4-Dichlorobenzene | ND | 5.0 | 1.00 | |
| Dichlorodifluoromethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,2-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethene | ND | 5.0 | 1.00 | |
| c-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| t-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| 1,2-Dichloropropane | ND | 5.0 | 1.00 | |
| 1,3-Dichloropropane | ND | 5.0 | 1.00 | |
| 2,2-Dichloropropane | ND | 5.0 | 1.00 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 12 of 18 |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 5.0 | 1.00 | |
| c-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| t-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| Ethylbenzene | ND | 5.0 | 1.00 | |
| 2-Hexanone | ND | 50 | 1.00 | |
| Isopropylbenzene | ND | 5.0 | 1.00 | |
| p-Isopropyltoluene | ND | 5.0 | 1.00 | |
| Methylene Chloride | ND | 50 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 50 | 1.00 | |
| Naphthalene | ND | 50 | 1.00 | |
| n-Propylbenzene | ND | 5.0 | 1.00 | |
| Styrene | ND | 5.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| Tetrachloroethene | ND | 5.0 | 1.00 | |
| Toluene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 10 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50 | 1.00 | |
| Trichloroethene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Trichlorofluoromethane | ND | 50 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Vinyl Acetate | ND | 50 | 1.00 | |
| Vinyl Chloride | ND | 5.0 | 1.00 | |
| p/m-Xylene | ND | 5.0 | 1.00 | |
| o-Xylene | ND | 5.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 5.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 92 | 80-120 | |
| Dibromofluoromethane | 94 | 79-133 | |
| 1,2-Dichloroethane-d4 | 101 | 71-155 | |
| Toluene-d8 | 99 | 80-120 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 13 of 18 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB11-5** | **18-09-1514-14-A** | **09/20/18 13:26** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 21:06** | **180925L007** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 120 | 1.00 | |
| Benzene | ND | 5.0 | 1.00 | |
| Bromobenzene | ND | 5.0 | 1.00 | |
| Bromochloromethane | ND | 5.0 | 1.00 | |
| Bromodichloromethane | ND | 5.0 | 1.00 | |
| Bromoform | ND | 5.0 | 1.00 | |
| Bromomethane | ND | 25 | 1.00 | |
| 2-Butanone | ND | 50 | 1.00 | |
| n-Butylbenzene | ND | 5.0 | 1.00 | |
| sec-Butylbenzene | ND | 5.0 | 1.00 | |
| tert-Butylbenzene | ND | 5.0 | 1.00 | |
| Carbon Disulfide | ND | 50 | 1.00 | |
| Carbon Tetrachloride | ND | 5.0 | 1.00 | |
| Chlorobenzene | ND | 5.0 | 1.00 | |
| Chloroethane | ND | 5.0 | 1.00 | |
| Chloroform | ND | 5.0 | 1.00 | |
| Chloromethane | ND | 25 | 1.00 | |
| 2-Chlorotoluene | ND | 5.0 | 1.00 | |
| 4-Chlorotoluene | ND | 5.0 | 1.00 | |
| Dibromochloromethane | ND | 5.0 | 1.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 9.9 | 1.00 | |
| 1,2-Dibromoethane | ND | 5.0 | 1.00 | |
| Dibromomethane | ND | 5.0 | 1.00 | |
| 1,2-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,3-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,4-Dichlorobenzene | ND | 5.0 | 1.00 | |
| Dichlorodifluoromethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,2-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethene | ND | 5.0 | 1.00 | |
| c-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| t-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| 1,2-Dichloropropane | ND | 5.0 | 1.00 | |
| 1,3-Dichloropropane | ND | 5.0 | 1.00 | |
| 2,2-Dichloropropane | ND | 5.0 | 1.00 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/kg |
| Project: 1628 East 81st Street | | | Page 14 of 18 |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 5.0 | 1.00 | |
| c-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| t-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| Ethylbenzene | ND | 5.0 | 1.00 | |
| 2-Hexanone | ND | 50 | 1.00 | |
| Isopropylbenzene | ND | 5.0 | 1.00 | |
| p-Isopropyltoluene | ND | 5.0 | 1.00 | |
| Methylene Chloride | ND | 50 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 50 | 1.00 | |
| Naphthalene | ND | 50 | 1.00 | |
| n-Propylbenzene | ND | 5.0 | 1.00 | |
| Styrene | ND | 5.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| Tetrachloroethene | ND | 5.0 | 1.00 | |
| Toluene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 9.9 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50 | 1.00 | |
| Trichloroethene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Trichlorofluoromethane | ND | 50 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Vinyl Acetate | ND | 50 | 1.00 | |
| Vinyl Chloride | ND | 5.0 | 1.00 | |
| p/m-Xylene | ND | 5.0 | 1.00 | |
| o-Xylene | ND | 5.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 5.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 92 | 80-120 | |
| Dibromofluoromethane | 96 | 79-133 | |
| 1,2-Dichloroethane-d4 | 103 | 71-155 | |
| Toluene-d8 | 99 | 80-120 | |

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# Analytical Report

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

Date Received: 09/20/18
Work Order: 18-09-1514
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: 1628 East 81st Street

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **SB12-5** | **18-09-1514-16-A** | **09/20/18 13:11** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 21:33** | **180925L007** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 120 | 1.00 | |
| Benzene | ND | 5.0 | 1.00 | |
| Bromobenzene | ND | 5.0 | 1.00 | |
| Bromochloromethane | ND | 5.0 | 1.00 | |
| Bromodichloromethane | ND | 5.0 | 1.00 | |
| Bromoform | ND | 5.0 | 1.00 | |
| Bromomethane | ND | 25 | 1.00 | |
| 2-Butanone | ND | 50 | 1.00 | |
| n-Butylbenzene | ND | 5.0 | 1.00 | |
| sec-Butylbenzene | ND | 5.0 | 1.00 | |
| tert-Butylbenzene | ND | 5.0 | 1.00 | |
| Carbon Disulfide | ND | 50 | 1.00 | |
| Carbon Tetrachloride | ND | 5.0 | 1.00 | |
| Chlorobenzene | ND | 5.0 | 1.00 | |
| Chloroethane | ND | 5.0 | 1.00 | |
| Chloroform | ND | 5.0 | 1.00 | |
| Chloromethane | ND | 25 | 1.00 | |
| 2-Chlorotoluene | ND | 5.0 | 1.00 | |
| 4-Chlorotoluene | ND | 5.0 | 1.00 | |
| Dibromochloromethane | ND | 5.0 | 1.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | 1.00 | |
| 1,2-Dibromoethane | ND | 5.0 | 1.00 | |
| Dibromomethane | ND | 5.0 | 1.00 | |
| 1,2-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,3-Dichlorobenzene | ND | 5.0 | 1.00 | |
| 1,4-Dichlorobenzene | ND | 5.0 | 1.00 | |
| Dichlorodifluoromethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,2-Dichloroethane | ND | 5.0 | 1.00 | |
| 1,1-Dichloroethene | ND | 5.0 | 1.00 | |
| c-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| t-1,2-Dichloroethene | ND | 5.0 | 1.00 | |
| 1,2-Dichloropropane | ND | 5.0 | 1.00 | |
| 1,3-Dichloropropane | ND | 5.0 | 1.00 | |
| 2,2-Dichloropropane | ND | 5.0 | 1.00 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

| | | |
|---|---|---|
| ENCON Technologies, Inc. | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | Preparation: | EPA 5030C |
| | Method: | EPA 8260B |
| | Units: | ug/kg |
| Project: 1628 East 81st Street | | Page 16 of 18 |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 5.0 | 1.00 | |
| c-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| t-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| Ethylbenzene | ND | 5.0 | 1.00 | |
| 2-Hexanone | ND | 50 | 1.00 | |
| Isopropylbenzene | ND | 5.0 | 1.00 | |
| p-Isopropyltoluene | ND | 5.0 | 1.00 | |
| Methylene Chloride | ND | 50 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 50 | 1.00 | |
| Naphthalene | ND | 50 | 1.00 | |
| n-Propylbenzene | ND | 5.0 | 1.00 | |
| Styrene | ND | 5.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| Tetrachloroethene | ND | 5.0 | 1.00 | |
| Toluene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 10 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50 | 1.00 | |
| Trichloroethene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Trichlorofluoromethane | ND | 50 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Vinyl Acetate | ND | 50 | 1.00 | |
| Vinyl Chloride | ND | 5.0 | 1.00 | |
| p/m-Xylene | ND | 5.0 | 1.00 | |
| o-Xylene | ND | 5.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 5.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 91 | 80-120 | |
| Dibromofluoromethane | 94 | 79-133 | |
| 1,2-Dichloroethane-d4 | 102 | 71-155 | |
| Toluene-d8 | 98 | 80-120 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

|  |  |  |
|---|---|---|
| ENCON Technologies, Inc. | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | Preparation: | EPA 5030C |
|  | Method: | EPA 8260B |
|  | Units: | ug/kg |
| Project: 1628 East 81st Street |  | Page 17 of 18 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-12-796-14610** | **N/A** | **Solid** | **GC/MS LL** | **09/25/18** | **09/25/18 13:49** | **180925L007** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 120 | 1.00 |  |
| Benzene | ND | 5.0 | 1.00 |  |
| Bromobenzene | ND | 5.0 | 1.00 |  |
| Bromochloromethane | ND | 5.0 | 1.00 |  |
| Bromodichloromethane | ND | 5.0 | 1.00 |  |
| Bromoform | ND | 5.0 | 1.00 |  |
| Bromomethane | ND | 25 | 1.00 |  |
| 2-Butanone | ND | 50 | 1.00 |  |
| n-Butylbenzene | ND | 5.0 | 1.00 |  |
| sec-Butylbenzene | ND | 5.0 | 1.00 |  |
| tert-Butylbenzene | ND | 5.0 | 1.00 |  |
| Carbon Disulfide | ND | 50 | 1.00 |  |
| Carbon Tetrachloride | ND | 5.0 | 1.00 |  |
| Chlorobenzene | ND | 5.0 | 1.00 |  |
| Chloroethane | ND | 5.0 | 1.00 |  |
| Chloroform | ND | 5.0 | 1.00 |  |
| Chloromethane | ND | 25 | 1.00 |  |
| 2-Chlorotoluene | ND | 5.0 | 1.00 |  |
| 4-Chlorotoluene | ND | 5.0 | 1.00 |  |
| Dibromochloromethane | ND | 5.0 | 1.00 |  |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | 1.00 |  |
| 1,2-Dibromoethane | ND | 5.0 | 1.00 |  |
| Dibromomethane | ND | 5.0 | 1.00 |  |
| 1,2-Dichlorobenzene | ND | 5.0 | 1.00 |  |
| 1,3-Dichlorobenzene | ND | 5.0 | 1.00 |  |
| 1,4-Dichlorobenzene | ND | 5.0 | 1.00 |  |
| Dichlorodifluoromethane | ND | 5.0 | 1.00 |  |
| 1,1-Dichloroethane | ND | 5.0 | 1.00 |  |
| 1,2-Dichloroethane | ND | 5.0 | 1.00 |  |
| 1,1-Dichloroethene | ND | 5.0 | 1.00 |  |
| c-1,2-Dichloroethene | ND | 5.0 | 1.00 |  |
| t-1,2-Dichloroethene | ND | 5.0 | 1.00 |  |
| 1,2-Dichloropropane | ND | 5.0 | 1.00 |  |
| 1,3-Dichloropropane | ND | 5.0 | 1.00 |  |
| 2,2-Dichloropropane | ND | 5.0 | 1.00 |  |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | |
|---|---|---|
| ENCON Technologies, Inc. | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | Preparation: | EPA 5030C |
| | Method: | EPA 8260B |
| | Units: | ug/kg |
| Project: 1628 East 81st Street | | Page 18 of 18 |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 5.0 | 1.00 | |
| c-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| t-1,3-Dichloropropene | ND | 5.0 | 1.00 | |
| Ethylbenzene | ND | 5.0 | 1.00 | |
| 2-Hexanone | ND | 50 | 1.00 | |
| Isopropylbenzene | ND | 5.0 | 1.00 | |
| p-Isopropyltoluene | ND | 5.0 | 1.00 | |
| Methylene Chloride | ND | 50 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 50 | 1.00 | |
| Naphthalene | ND | 50 | 1.00 | |
| n-Propylbenzene | ND | 5.0 | 1.00 | |
| Styrene | ND | 5.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 1.00 | |
| Tetrachloroethene | ND | 5.0 | 1.00 | |
| Toluene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 10 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 5.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50 | 1.00 | |
| Trichloroethene | ND | 5.0 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Trichlorofluoromethane | ND | 50 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | 1.00 | |
| Vinyl Acetate | ND | 50 | 1.00 | |
| Vinyl Chloride | ND | 5.0 | 1.00 | |
| p/m-Xylene | ND | 5.0 | 1.00 | |
| o-Xylene | ND | 5.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 5.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 96 | 80-120 | |
| Dibromofluoromethane | 96 | 79-133 | |
| 1,2-Dichloroethane-d4 | 112 | 71-155 | |
| Toluene-d8 | 98 | 80-120 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Quality Control - Spike/Spike Duplicate

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

Project: 1628 East 81st Street

Date Received: 09/20/18
Work Order: 18-09-1514
Preparation: EPA 3550B
Method: EPA 8015B (M)
Page 1 of 6

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **SB6-5** | **Sample** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 13:32** | **180925S06** |
| **SB6-5** | **Matrix Spike** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 11:48** | **180925S06** |
| **SB6-5** | **Matrix Spike Duplicate** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 12:08** | **180925S06** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Motor Oil | ND | 400.0 | 482.5 | 121 | 447.6 | 112 | 64-130 | 8 | 0-15 | |

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RPD: Relative Percent Difference. CL: Control Limits

# Quality Control - Spike/Spike Duplicate

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

Project: 1628 East 81st Street

Date Received: 09/20/18
Work Order: 18-09-1514
Preparation: EPA 3050B
Method: EPA 6010B
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| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **SB5-5** | **Sample** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 20:14** | **180924S02** |
| **SB5-5** | **Matrix Spike** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 20:05** | **180924S02** |
| **SB5-5** | **Matrix Spike Duplicate** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 20:06** | **180924S02** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 25.00 | 4.118 | 16 | 3.773 | 15 | 50-115 | 9 | 0-20 | 3 |
| Arsenic | 5.970 | 25.00 | 33.30 | 109 | 33.09 | 108 | 75-125 | 1 | 0-20 | |
| Barium | 107.7 | 25.00 | 139.9 | 4X | 140.9 | 4X | 75-125 | 4X | 0-20 | Q |
| Beryllium | 0.5271 | 25.00 | 27.03 | 106 | 27.22 | 107 | 75-125 | 1 | 0-20 | |
| Cadmium | 0.5754 | 25.00 | 29.62 | 116 | 29.56 | 116 | 75-125 | 0 | 0-20 | |
| Chromium | 14.82 | 25.00 | 45.73 | 124 | 45.47 | 123 | 75-125 | 1 | 0-20 | |
| Cobalt | 9.842 | 25.00 | 39.10 | 117 | 38.93 | 116 | 75-125 | 0 | 0-20 | |
| Copper | 12.87 | 25.00 | 40.79 | 112 | 41.15 | 113 | 75-125 | 1 | 0-20 | |
| Lead | ND | 25.00 | 27.65 | 111 | 27.16 | 109 | 75-125 | 2 | 0-20 | |
| Molybdenum | ND | 25.00 | 26.80 | 107 | 26.57 | 106 | 75-125 | 1 | 0-20 | |
| Nickel | 10.11 | 25.00 | 37.46 | 109 | 37.27 | 109 | 75-125 | 1 | 0-20 | |
| Selenium | ND | 25.00 | 23.88 | 96 | 22.91 | 92 | 75-125 | 4 | 0-20 | |
| Silver | ND | 12.50 | 13.34 | 107 | 13.40 | 107 | 75-125 | 0 | 0-20 | |
| Thallium | 1.042 | 25.00 | 25.11 | 96 | 24.68 | 95 | 75-125 | 2 | 0-20 | |
| Vanadium | 34.23 | 25.00 | 58.98 | 99 | 59.38 | 101 | 75-125 | 1 | 0-20 | |
| Zinc | 47.18 | 25.00 | 75.73 | 114 | 75.27 | 112 | 75-125 | 1 | 0-20 | |

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RPD: Relative Percent Difference. CL: Control Limits

# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 7471A Total |
| | | Method: | EPA 7471A |
| Project: 1628 East 81st Street | | | Page 3 of 6 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **SB5-5** | **Sample** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:22** | **180924S03** |
| **SB5-5** | **Matrix Spike** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:25** | **180924S03** |
| **SB5-5** | **Matrix Spike Duplicate** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:27** | **180924S03** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.8350 | 0.8226 | 99 | 0.8601 | 103 | 71-137 | 4 | 0-14 | |

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RPD: Relative Percent Difference. CL: Control Limits

## Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| Project: 1628 East 81st Street | | | Page 4 of 6 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **18-09-1641-4** | **Sample** | **Solid** | **GC 58** | **09/21/18** | **09/24/18 11:49** | **180921S08** |
| **18-09-1641-4** | **Matrix Spike** | **Solid** | **GC 58** | **09/21/18** | **09/24/18 11:13** | **180921S08** |
| **18-09-1641-4** | **Matrix Spike Duplicate** | **Solid** | **GC 58** | **09/21/18** | **09/24/18 11:31** | **180921S08** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | ND | 100.0 | 1950 | 1950 | 3380 | 3380 | 50-135 | 54 | 0-20 | 3,4 |
| Aroclor-1260 | ND | 100.0 | 3015 | 3015 | 4595 | 4595 | 50-135 | 42 | 0-20 | 3,4 |

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| Project: 1628 East 81st Street | | | Page 5 of 6 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **18-09-1732-1** | **Sample** | **Solid** | **GC 58** | **09/25/18** | **09/26/18 17:49** | **180925S10A** |
| **18-09-1732-1** | **Matrix Spike** | **Solid** | **GC 58** | **09/25/18** | **09/26/18 17:13** | **180925S10A** |
| **18-09-1732-1** | **Matrix Spike Duplicate** | **Solid** | **GC 58** | **09/25/18** | **09/26/18 17:31** | **180925S10A** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | ND | 100.0 | 90.00 | 90 | 84.50 | 84 | 50-135 | 6 | 0-20 | |
| Aroclor-1260 | ND | 100.0 | 74.50 | 74 | 67.00 | 67 | 50-135 | 11 | 0-20 | |

Return to Contents

RPD: Relative Percent Difference.   CL: Control Limits

# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| Project: 1628 East 81st Street | | | Page 6 of 6 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **SB5-5** | **Sample** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 14:44** | **180925S004** |
| **SB5-5** | **Matrix Spike** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 17:00** | **180925S004** |
| **SB5-5** | **Matrix Spike Duplicate** | **Solid** | **GC/MS LL** | **09/20/18** | **09/25/18 17:27** | **180925S004** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | 50.00 | 36.95 | 74 | 37.52 | 75 | 61-127 | 2 | 0-20 | |
| Carbon Tetrachloride | ND | 50.00 | 37.29 | 75 | 38.87 | 78 | 51-135 | 4 | 0-29 | |
| Chlorobenzene | ND | 50.00 | 42.45 | 85 | 42.24 | 84 | 57-123 | 0 | 0-20 | |
| 1,2-Dibromoethane | ND | 50.00 | 40.41 | 81 | 40.56 | 81 | 64-124 | 0 | 0-20 | |
| 1,2-Dichlorobenzene | ND | 50.00 | 41.90 | 84 | 41.48 | 83 | 35-131 | 1 | 0-25 | |
| 1,2-Dichloroethane | ND | 50.00 | 39.30 | 79 | 40.53 | 81 | 80-120 | 3 | 0-20 | 3 |
| 1,1-Dichloroethene | ND | 50.00 | 40.47 | 81 | 38.12 | 76 | 47-143 | 6 | 0-25 | |
| Ethylbenzene | ND | 50.00 | 43.82 | 88 | 42.90 | 86 | 57-129 | 2 | 0-22 | |
| Toluene | ND | 50.00 | 39.63 | 79 | 39.52 | 79 | 63-123 | 0 | 0-20 | |
| Trichloroethene | ND | 50.00 | 42.03 | 84 | 42.62 | 85 | 44-158 | 1 | 0-20 | |
| Vinyl Chloride | ND | 50.00 | 35.72 | 71 | 35.86 | 72 | 49-139 | 0 | 0-47 | |
| p/m-Xylene | ND | 100.0 | 84.33 | 84 | 82.97 | 83 | 70-130 | 2 | 0-30 | |
| o-Xylene | ND | 50.00 | 43.04 | 86 | 42.73 | 85 | 70-130 | 1 | 0-30 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 50.00 | 34.30 | 69 | 34.63 | 69 | 57-123 | 1 | 0-21 | |

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RPD: Relative Percent Difference. CL: Control Limits

# Quality Control - LCS

| | | |
|---|---|---|
| ENCON Technologies, Inc. | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | Preparation: | EPA 3550B |
| | Method: | EPA 8015B (M) |
| Project: 1628 East 81st Street | | Page 1 of 6 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-15-420-2942** | **LCS** | **Solid** | **GC 46** | **09/25/18** | **09/26/18 11:27** | **180925B06** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| TPH as Motor Oil | 400.0 | 439.4 | 110 | 75-123 | |

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RPD: Relative Percent Difference. CL: Control Limits

# Quality Control - LCS

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

Project: 1628 East 81st Street

Date Received: 09/20/18
Work Order: 18-09-1514
Preparation: EPA 3050B
Method: EPA 6010B
Page 2 of 6

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **097-01-002-27012** | **LCS** | **Solid** | **ICP 8300** | **09/24/18** | **09/26/18 19:55** | **180924L02** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Antimony | 25.00 | 22.96 | 92 | 80-120 | 73-127 | |
| Arsenic | 25.00 | 22.66 | 91 | 80-120 | 73-127 | |
| Barium | 25.00 | 25.69 | 103 | 80-120 | 73-127 | |
| Beryllium | 25.00 | 24.58 | 98 | 80-120 | 73-127 | |
| Cadmium | 25.00 | 25.16 | 101 | 80-120 | 73-127 | |
| Chromium | 25.00 | 24.64 | 99 | 80-120 | 73-127 | |
| Cobalt | 25.00 | 25.06 | 100 | 80-120 | 73-127 | |
| Copper | 25.00 | 24.06 | 96 | 80-120 | 73-127 | |
| Lead | 25.00 | 27.03 | 108 | 80-120 | 73-127 | |
| Molybdenum | 25.00 | 25.40 | 102 | 80-120 | 73-127 | |
| Nickel | 25.00 | 24.36 | 97 | 80-120 | 73-127 | |
| Selenium | 25.00 | 22.38 | 90 | 80-120 | 73-127 | |
| Silver | 12.50 | 11.47 | 92 | 80-120 | 73-127 | |
| Thallium | 25.00 | 25.11 | 100 | 80-120 | 73-127 | |
| Vanadium | 25.00 | 24.04 | 96 | 80-120 | 73-127 | |
| Zinc | 25.00 | 26.02 | 104 | 80-120 | 73-127 | |

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Return to Contents

# Quality Control - LCS

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 7471A Total |
| | | Method: | EPA 7471A |
| Project: 1628 East 81st Street | | | Page 3 of 6 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-16-272-4155** | **LCS** | **Solid** | **Mercury 08** | **09/24/18** | **09/24/18 16:20** | **180924L03** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| Mercury | 0.8350 | 0.8210 | 98 | 85-121 | |

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RPD: Relative Percent Difference. CL: Control Limits

# Quality Control - LCS

| | | | |
|---|---|---|---|
| ENCON Technologies, Inc. | | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| Project: 1628 East 81st Street | | | Page 4 of 6 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-12-535-4893** | **LCS** | **Solid** | **GC 58** | **09/21/18** | **09/24/18 10:55** | **180921L08** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| Aroclor-1016 | 100.0 | 90.00 | 90 | 50-135 | |
| Aroclor-1260 | 100.0 | 76.50 | 76 | 50-135 | |

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# Quality Control - LCS

|  |  |  |
|---|---|---|
| ENCON Technologies, Inc. | Date Received: | 09/20/18 |
| 12145 Mora Drive, Suite 7 | Work Order: | 18-09-1514 |
| Santa Fe Springs, CA 90670-6055 | Preparation: | EPA 3545 |
|  | Method: | EPA 8082 |
| Project: 1628 East 81st Street |  | Page 5 of 6 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-12-535-4902** | **LCS** | **Solid** | **GC 58** | **09/25/18** | **09/26/18 13:00** | **180925L10** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| Aroclor-1016 | 100.0 | 84.50 | 84 | 50-135 |  |
| Aroclor-1260 | 100.0 | 78.50 | 78 | 50-135 |  |

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RPD: Relative Percent Difference. CL: Control Limits

# Quality Control - LCS

ENCON Technologies, Inc.
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670-6055

Project: 1628 East 81st Street

Date Received: 09/20/18
Work Order: 18-09-1514
Preparation: EPA 5030C
Method: EPA 8260B

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-12-796-14610** | **LCS** | **Solid** | **GC/MS LL** | **09/25/18** | **09/25/18 12:53** | **180925L007** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | 50.00 | 44.00 | 88 | 80-120 | 73-127 | |
| Carbon Tetrachloride | 50.00 | 45.99 | 92 | 65-137 | 53-149 | |
| Chlorobenzene | 50.00 | 49.88 | 100 | 80-120 | 73-127 | |
| 1,2-Dibromoethane | 50.00 | 46.41 | 93 | 80-120 | 73-127 | |
| 1,2-Dichlorobenzene | 50.00 | 49.93 | 100 | 80-120 | 73-127 | |
| 1,2-Dichloroethane | 50.00 | 46.62 | 93 | 80-120 | 73-127 | |
| 1,1-Dichloroethene | 50.00 | 47.62 | 95 | 68-128 | 58-138 | |
| Ethylbenzene | 50.00 | 51.07 | 102 | 80-120 | 73-127 | |
| Toluene | 50.00 | 47.37 | 95 | 80-120 | 73-127 | |
| Trichloroethene | 50.00 | 49.15 | 98 | 80-120 | 73-127 | |
| Vinyl Chloride | 50.00 | 43.10 | 86 | 67-127 | 57-137 | |
| p/m-Xylene | 100.0 | 99.25 | 99 | 75-125 | 67-133 | |
| o-Xylene | 50.00 | 50.20 | 100 | 75-125 | 67-133 | |
| Methyl-t-Butyl Ether (MTBE) | 50.00 | 38.34 | 77 | 70-124 | 61-133 | |

Total number of LCS compounds: 14
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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# Sample Analysis Summary Report

Work Order: 18-09-1514

Page 1 of 1

| Method | Extraction | Chemist ID | Instrument | Analytical Location |
|---|---|---|---|---|
| EPA 6010B | EPA 3050B | 110 | ICP 8300 | 1 |
| EPA 7471A | EPA 7471A Total | 868 | Mercury 08 | 1 |
| EPA 8015B (M) | EPA 3550B | 1028 | GC 46 | 1 |
| EPA 8082 | EPA 3545 | 669 | GC 58 | 1 |
| EPA 8260B | EPA 5030C | 867 | GC/MS LL | 2 |

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Location 1: 7440 Lincoln Way, Garden Grove, CA 92841
Location 2: 7445 Lampson Avenue, Garden Grove, CA 92841

# Glossary of Terms and Qualifiers

Work Order: 18-09-1514

| Qualifiers | Definition |
|---|---|
| * | See applicable analysis comment. |
| < | Less than the indicated value. |
| > | Greater than the indicated value. |
| 1 | Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification. |
| 2 | Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification. |
| 3 | Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control. |
| 4 | The MS/MSD RPD was out of control due to suspected matrix interference. |
| 5 | The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference. |
| 6 | Surrogate recovery below the acceptance limit. |
| 7 | Surrogate recovery above the acceptance limit. |
| B | Analyte was present in the associated method blank. |
| BU | Sample analyzed after holding time expired. |
| BV | Sample received after holding time expired. |
| CI | See case narrative. |
| E | Concentration exceeds the calibration range. |
| ET | Sample was extracted past end of recommended max. holding time. |
| HD | The chromatographic pattern was inconsistent with the profile of the reference fuel standard. |
| HDH | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected). |
| HDL | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected). |
| J | Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated. |
| JA | Analyte positively identified but quantitation is an estimate. |
| ME | LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean). |
| ND | Parameter not detected at the indicated reporting limit. |
| Q | Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater. |
| SG | The sample extract was subjected to Silica Gel treatment prior to analysis. |
| X | % Recovery and/or RPD out-of-range. |
| Z | Analyte presence was not confirmed by second column or GC/MS analysis. |

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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WO # / LAB USE ONLY
**18-09-1514**

# CHAIN OF CUSTODY RECORD

DATE: 9/20/18
PAGE: 1 OF 2

LABORATORY CLIENT: Encon Technologies, Inc.
ADDRESS: 12145 Mora Drive, Suite 7
CITY: Santa Fe Springs STATE: ca. ZIP: 90670
TEL: 562-777-2200 E-MAIL: encon@encontech.net
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"): ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD
☐ COELT EDF GLOBAL ID: LOG CODE:
SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NUMBER: 1628 East 81st Street
P.O. NO.:
PROJECT CONTACT: Joe Scatoloni
SAMPLER(S): (PRINT) G. Salley

## REQUESTED ANALYSES

Please check box or fill in blank as needed.

| LAB USE ONLY | SAMPLE ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NO. OF CONT. | Unpreserved | Preserved | Field Filtered | ☐ TPH(g) ☐ GRO | ☐ TPH(d) ☐ DRO | TPH: ☐ C6-C36 ☐ C6-C44 | TPH ____ | BTEX / MTBE: ☐ 8260 ☐ ____ | VOCs (8260) | Oxygenates (8260) | Prep(5035): ☐ En Core ☐ Terra Core | SVOCs (8270) | Pesticides (8081) | PCBs (8082) | PAHs: ☐ 8270 ☐ 8270 SIM | T22 Metals: ☒ 6010/747X ☐ 6020/747X | Cr(VI): ☐ 7196 ☐ 7199 ☐ 218.6 | TPH - oil | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SB1-1 | 9/20/18 | 1120 | soil | 1 | X | | | | | | | | | | | | | X | | | | | | | |
| 2 | SB1-5 | 9/20/18 | 1125 | | | X | | | | | | | | | | | | | | | X | | | | | |
| 3 | SB2-1 | 9/20/18 | 1100 | | | X | | | | | | | | | | | | | X | | | | | | | |
| 4 | SB2-5 | 9/20/18 | 1105 | | | X | | | | | | | | | | | | | | | X | | | | | |
| 5 | SB5-1 | 9/20/18 | 1205 | | | X | | | | | | | | | | | | | X | | | | | | | |
| 6 | SB5-5 | 9/20/18 | 1210 | | | X | | | | | | | | X | | | | | | | X | | X | | | |
| 7 | SB6-5 | 9/20/18 | 1227 | | | X | | | | | | | | X | | | | | | | | | X | | | |
| 8 | SB7-5 | 9/20/18 | 1357 | | | X | | | | | | | | X | | | | | | | | | X | | | |
| 9 | SB8-1 | 9/20/18 | 1235 | | | X | | | | | | | | | | | | | X | | | | | | | |
| 10 | SB8-5 | 9/20/18 | 1241 | ↓ | ↓ | X | | | | | | | | X | | | | | | | X | | X | | | |

| | | | |
|---|---|---|---|
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) Dannyle EL | Date: 9/20/18 | Time: 1515 |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |

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# CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 18-09-1574

DATE: 9/20/18
PAGE: 2 OF 2

LABORATORY CLIENT: Encon Technologies, Inc.
ADDRESS: 12145 Mora Drive, Suite 7
CITY: Santa Fe Springs STATE: Ca. ZIP: 90670
TEL: 562-777-2200 E-MAIL: encon@encontech.net

CLIENT PROJECT NAME / NUMBER: 1628 East 81st Street
P.O. NO.:
PROJECT CONTACT: Joe Scatoloni
SAMPLER(S): (PRINT) G. Salles

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

## REQUESTED ANALYSES

Please check box or fill in blank as needed.

| LAB USE ONLY | SAMPLE ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NO. OF CONT. | Unpreserved | Preserved | Field Filtered | ☐ TPH(g) ☐ GRO | ☐ TPH(d) ☐ DRO | TPH: ☐ C6-C36 ☐ C6-C44 | TPH ____ | BTEX / MTBE: ☐ 8260 ☐ ____ | VOCs (8260) | Oxygenates (8260) | Prep(5035): ☐ En Core ☐ Terra Core | SVOCs (8270) | Pesticides (8081) | PCBs (8082) | PAHs: ☐ 8270 ☐ 8270 SIM | T22 Metals: ☒ 6010/747X ☐ 6020/747X | Cr(VI): ☐ 7196 ☐ 7199 ☐ 218.6 | TPH - oil | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | SB9-1 | 9/20/18 | 1336 | Soil | 1 | X | | | | | | | | | | | | | X | | | | | | | |
| 12 | SB9-5 | 9/20/18 | 1342 | | | X | | | | | | | | X | | | | | | | X | | X | | | |
| 13 | SB10-5 | 9/20/18 | 1255 | | | X | | | | | | | | X | | | | | | | | | X | | | |
| 14 | SB11-5 | 9/20/18 | 1326 | | | X | | | | | | | | X | | | | | | | | | X | | | |
| 15 | SB12-1 | 9/20/18 | 1306 | | | X | | | | | | | | | | | | | X | | | | | | | |
| 16 | SB12-5 | 9/20/18 | 1311 | ↓ | ↓ | X | | | | | | | | X | | | | | | | X | | X | | | |

| | | | |
|---|---|---|---|
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) Dannyle Ez | Date: 9/20/18 | Time: 15:54 |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |

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06/02/14 Revision

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**WORK ORDER NUMBER:** 18-09-1514

## SAMPLE RECEIPT CHECKLIST

**COOLER** 1 **OF** 1

**CLIENT:** Encon

**DATE:** 09 / 20 / 2018

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.5°C); Temperature (w/o CF): 4.6 °C (w/ CF): 4.1 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: ________)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: UDZL

**CUSTODY SEAL:**

| | | | | | |
|---|---|---|---|---|---|
| Cooler | ☐ Present and Intact | ☐ Present but Not Intact | ☑ Not Present | ☐ N/A | Checked by: UDZL |
| Sample(s) | ☐ Present and Intact | ☐ Present but Not Intact | ☑ Not Present | ☐ N/A | Checked by: H4MW |

| **SAMPLE CONDITION:** | Yes | No | N/A |
|---|---|---|---|
| Chain-of-Custody (COC) document(s) received with samples | ☑ | ☐ | ☐ |
| COC document(s) received complete | ☑ | ☐ | ☐ |
| ☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers | | | |
| ☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time | | | |
| Sampler's name indicated on COC | ☑ | ☐ | ☐ |
| Sample container label(s) consistent with COC | ☑ | ☐ | ☐ |
| Sample container(s) intact and in good condition | ☑ | ☐ | ☐ |
| Proper containers for analyses requested | ☑ | ☐ | ☐ |
| Sufficient volume/mass for analyses requested | ☑ | ☐ | ☐ |
| Samples received within holding time | ☑ | ☐ | ☐ |
| Aqueous samples for certain analyses received within 15-minute holding time | | | |
| ☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen | ☐ | ☐ | ☑ |
| Proper preservation chemical(s) noted on COC and/or sample container | ☐ | ☐ | ☑ |
| Unpreserved aqueous sample(s) received for certain analyses | | | |
| ☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals | | | |
| Acid/base preserved samples - pH within acceptable range | ☐ | ☐ | ☑ |
| Container(s) for certain analysis free of headspace | ☐ | ☐ | ☑ |
| ☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500) | | | |
| ☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach) | | | |
| Tedlar™ bag(s) free of condensation | ☐ | ☐ | ☑ |

**CONTAINER TYPE:** **(Trip Blank Lot Number: ____________)**

**Aqueous:** ☐ VOA ☐ VOAh ☐ VOAna₂ ☐ 100PJ ☐ 100PJna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB ☐ 125PBznna (pH__9) ☐ 250AGB ☐ 250CGB ☐ 250CGBs (pH__2) ☐ 250PB ☐ 250PBn (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJs (pH__2) ☐ 500PB ☐ 1AGB ☐ 1AGBna₂ ☐ 1AGBs (pH__2) ☐ 1AGBs (O&G) ☐ 1PB ☐ 1PBna (pH__12) ☐ ________ ☐ ________ ☐ ________

**Solid:** ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (P) ☐ EnCores® (___) ☐ TerraCores® (___) ☐ ________ ☐ ________ ☐ ________

**Air:** ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ ________ **Other Matrix** (__________): ☐ ________ ☐ ________ ☐ ________

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = $HNO_3$, **na** = NaOH, **na₂** = $Na_2S_2O_3$, **p** = $H_3PO_4$, **s** = $H_2SO_4$, **u** = ultra-pure, **x** = $Na_2SO_3$+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: H4MW

Reviewed by: UDZL

2017-08-29 Revision

# Exhibit B

C&E Laboratory Soil Gas Analytical Report

**CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.**

September 26, 2018 ELAP Certificate No: 2268

Mr. Joe Scataloni
ENCON Technologies
12145 Mora Drive, Suite 7
Santa Fe Springs, CA 90670

Project: 1628 East 81st Street
C&E ID: 180921C

Dear Mr. Scataloni,

Enclosed is an analytical report for the sample(s) received by Chemical & Environmental Laboratories, Inc. on September 21, 2018 and analyzed as indicated in the chain-of-custody attached.

Unless otherwise noted, no problems were encountered during receiving, preparation and analysis of these samples.

Please call me at (562) 396-5866 if you have any questions regarding this report.

Sincerely,

Larry Zhang

Larry Zhang, Ph.D.
Laboratory Director

# CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

## ANALYTICAL REPORT

--- EPA 8260B (VOCs) ---

| | | | |
|---|---|---|---|
| Client Name: | Encon Technologies | Date Sampled: | 09/21/18 |
| Project Manager: | Joe Scataloni | Date Analyzed: | 09/21/18 |
| Project Name: | 1628 East 81$^{st}$ Street | Date Reported: | 09/24/18 |
| Sample Matrix: | Vapor | Unit Reported: | µg/L |

| C&E LAB ID | 180921C-1 | 180921C-2 | 180921C-3 | 180921C-4 | 180921C-5 |
|---|---|---|---|---|---|
| SAMPLE ID | SV1 | SV2 | SV3 | SV4 | SV5 |
| DF | 1 | 1 | 1 | 1 | 1 |

| COMPOUND | Result | RL | Result | RL | Result | RL | Result | RL | Result | RL |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Benzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Bromodichloromethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Bromoform | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Bromomethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 2-Butanone (MEK) | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Carbon Disulfide | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Carbon Tetrachloride | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Chlorobenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Chloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Chloroform | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Chloromethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Cyclohexane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Dibromochloromethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2-Dibromo-3-Chloropropane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2-Dibromoethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2-Dichlorobenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,3-Dichlorobenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,4-Dichlorobenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Dichlorodifluoromethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1-Dichloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2-Dichloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1-Dichloroethene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| cis-1,2-Dichloroethene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| trans-1,2-Dichloroethene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2-Dichloropropane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Isopropanol | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |

To be continued on page 2

# ANALYTICAL REPORT

--- EPA 8260B (VOCs) ---

Client Name: Encon Technologies
Project Manager: Joe Scataloni
Project Name: 1628 East 81st Street
Sample Matrix: Vapor

Date Sampled: 09/21/18
Date Analyzed: 09/21/18
Date Reported: 09/24/18
Unit Reported: µg/L

| C&E LAB ID | 180921C-1 | 180921C-2 | 180921C-3 | 180921C-4 | 180921C-5 |
|---|---|---|---|---|---|
| SAMPLE ID | SV1 | SV2 | SV3 | SV4 | SV5 |
| DF | 1 | 1 | 1 | 1 | 1 |

| COMPOUND | Result | RL | Result | RL | Result | RL | Result | RL | Result | RL |
|---|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| cis-1,3-Dichloropropene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Ethylbenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 2-Hexanone | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Methyl Acetate | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Methylcyclohexane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Methylene Chloride | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 4-Methyl-2-Pentanone | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Styrene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Isopropylbenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 4-Isopropyltoluene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1,2,2-Tetrachloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Tetrachloroethene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Toluene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2,4-Trichlorobenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1,1-Trichloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1,2-Trichloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Trichloroethene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Trichlorofluoromethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1,2-Trichlorotrifluoroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Vinyl Chloride | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Total Xylenes | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |

| Surrogate Compounds | % Surrogate Recovery (70-130) | | | | |
|---|---|---|---|---|---|
| Dibromofluoromethane | 99 | 100 | 101 | 99 | 97 |
| 1,2-Dichloroethane-d4 | 103 | 101 | 107 | 100 | 102 |
| Toluene-D8 | 101 | 101 | 102 | 100 | 102 |
| 4-Bromofluorobenzene | 93 | 99 | 94 | 95 | 96 |

ND = Not detected at the indicated reporting limit; DF = Dilution Factor; RL = Reporting limit.

MI = Matrix Interference; unquantifiable due to coeluting organics in sample.

# CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

## ANALYTICAL REPORT

--- EPA 8260B (VOCs) ---

| | | | |
|---|---|---|---|
| Client Name: | Encon Technologies | Date Sampled: | 09/21/18 |
| Project Manager: | Joe Scataloni | Date Analyzed: | 09/21/18 |
| Project Name: | 1628 East 81st Street | Date Reported: | 09/24/18 |
| Sample Matrix: | Vapor | Unit Reported: | µg/L |

| C&E LAB ID | 180921C-6 | | 180921C-7 | | 180921C-8 | | 180921C-9 | | 180921C-10 | |
|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE ID | SV6 | | SV7 | | SV8 | | SV9 | | SV10 | |
| DF | 1 | | 1 | | 1 | | 1 | | 1 | |
| COMPOUND | Result | RL | Result | RL | Result | RL | Result | RL | Result | RL |
| Acetone | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Benzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Bromodichloromethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Bromoform | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Bromomethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 2-Butanone (MEK) | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Carbon Disulfide | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Carbon Tetrachloride | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Chlorobenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Chloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Chloroform | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Chloromethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Cyclohexane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Dibromochloromethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2-Dibromo-3-Chloropropane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2-Dibromoethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2-Dichlorobenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,3-Dichlorobenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,4-Dichlorobenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Dichlorodifluoromethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1-Dichloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2-Dichloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1-Dichloroethene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| cis-1,2-Dichloroethene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| trans-1,2-Dichloroethene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2-Dichloropropane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Isopropanol | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |

To be continued on page 2

# CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

## ANALYTICAL REPORT

--- EPA 8260B (VOCs) ---

| | | | | |
|---|---|---|---|---|
| Client Name: | Encon Technologies | | Date Sampled: | 09/21/18 |
| Project Manager: | Joe Scataloni | | Date Analyzed: | 09/21/18 |
| Project Name: | 1628 East 81st Street | | Date Reported: | 09/24/18 |
| Sample Matrix: | Vapor | | Unit Reported: | µg/L |

| C&E LAB ID | 180921C-6 | 180921C-7 | 180921C-8 | 180921C-9 | 180921C-10 |
|---|---|---|---|---|---|
| SAMPLE ID | SV6 | SV7 | SV8 | SV9 | SV10 |
| DF | 1 | 1 | 1 | 1 | 1 |

| COMPOUND | Result | RL | Result | RL | Result | RL | Result | RL | Result | RL |
|---|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| cis-1,3-Dichloropropene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Ethylbenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 2-Hexanone | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Methyl Acetate | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Methylcyclohexane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Methylene Chloride | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 4-Methyl-2-Pentanone | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Styrene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Isopropylbenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 4-Isopropyltoluene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1,2,2-Tetrachloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Tetrachloroethene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Toluene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,2,4-Trichlorobenzene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1,1-Trichloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1,2-Trichloroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Trichloroethene | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Trichlorofluoromethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| 1,1,2-Trichlorotrifluoroethane | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Vinyl Chloride | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |
| Total Xylenes | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 | ND | 0.05 |

| Surrogate Compounds | % Surrogate Recovery (70-130) | | | | |
|---|---|---|---|---|---|
| Dibromofluoromethane | 99 | 97 | 102 | 95 | 100 |
| 1,2-Dichloroethane-d4 | 100 | 99 | 100 | 97 | 94 |
| Toluene-D8 | 100 | 104 | 102 | 102 | 103 |
| 4-Bromofluorobenzene | 98 | 94 | 96 | 98 | 93 |

ND = Not detected at the indicated reporting limit; DF = Dilution Factor; RL = Reporting limit.

MI = Matrix Interference; unquantifiable due to coeluting organics in sample.

# CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

## ANALYTICAL REPORT

--- EPA 8260B (VOCs) ---

| | | | |
|---|---|---|---|
| Client Name: | Encon Technologies | Date Sampled: | 09/21/18 |
| Project Manager: | Joe Scataloni | Date Analyzed: | 09/21/18 |
| Project Name: | 1628 East 81$^{st}$ Street | Date Reported: | 09/24/18 |
| Sample Matrix: | Vapor | Unit Reported: | µg/L |

| C&E LAB ID | 180921C-11 | 180921C-12 | | | |
|---|---|---|---|---|---|
| SAMPLE ID | SV11 | SV12 | | | |
| DF | 1 | 1 | | | |

| COMPOUND | Result | RL | Result | RL | Result | RL | Result | RL | Result | RL |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 0.05 | ND | 0.05 | | | | | | |
| Benzene | ND | 0.05 | ND | 0.05 | | | | | | |
| Bromodichloromethane | ND | 0.05 | ND | 0.05 | | | | | | |
| Bromoform | ND | 0.05 | ND | 0.05 | | | | | | |
| Bromomethane | ND | 0.05 | ND | 0.05 | | | | | | |
| 2-Butanone (MEK) | ND | 0.05 | ND | 0.05 | | | | | | |
| Carbon Disulfide | ND | 0.05 | ND | 0.05 | | | | | | |
| Carbon Tetrachloride | ND | 0.05 | ND | 0.05 | | | | | | |
| Chlorobenzene | ND | 0.05 | ND | 0.05 | | | | | | |
| Chloroethane | ND | 0.05 | ND | 0.05 | | | | | | |
| Chloroform | ND | 0.05 | ND | 0.05 | | | | | | |
| Chloromethane | ND | 0.05 | ND | 0.05 | | | | | | |
| Cyclohexane | ND | 0.05 | ND | 0.05 | | | | | | |
| Dibromochloromethane | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,2-Dibromo-3-Chloropropane | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,2-Dibromoethane | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.05 | ND | 0.05 | | | | | | |
| Dichlorodifluoromethane | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,1-Dichloroethane | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,2-Dichloroethane | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,1-Dichloroethene | ND | 0.05 | ND | 0.05 | | | | | | |
| cis-1,2-Dichloroethene | ND | 0.05 | ND | 0.05 | | | | | | |
| trans-1,2-Dichloroethene | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,2-Dichloropropane | ND | 0.05 | ND | 0.05 | | | | | | |
| Isopropanol | ND | 0.05 | ND | 0.05 | | | | | | |

To be continued on page 2

# CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

## ANALYTICAL REPORT

--- EPA 8260B (VOCs) ---

Page 2 of 2

| | | | |
|---|---|---|---|
| Client Name: | Encon Technologies | Date Sampled: | 09/21/18 |
| Project Manager: | Joe Scataloni | Date Analyzed: | 09/21/18 |
| Project Name: | 1628 East 81st Street | Date Reported: | 09/24/18 |
| Sample Matrix: | Vapor | Unit Reported: | µg/L |

| C&E LAB ID | 180921C-11 | 180921C-12 | | | |
|---|---|---|---|---|---|
| SAMPLE ID | SV11 | SV12 | | | |
| DF | 1 | 1 | | | |

| COMPOUND | Result | RL | Result | RL | Result | RL | Result | RL | Result | RL |
|---|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | 0.05 | ND | 0.05 | | | | | | |
| cis-1,3-Dichloropropene | ND | 0.05 | ND | 0.05 | | | | | | |
| Ethylbenzene | ND | 0.05 | ND | 0.05 | | | | | | |
| 2-Hexanone | ND | 0.05 | ND | 0.05 | | | | | | |
| Methyl Acetate | ND | 0.05 | ND | 0.05 | | | | | | |
| Methylcyclohexane | ND | 0.05 | ND | 0.05 | | | | | | |
| Methylene Chloride | ND | 0.05 | ND | 0.05 | | | | | | |
| 4-Methyl-2-Pentanone | ND | 0.05 | ND | 0.05 | | | | | | |
| Styrene | ND | 0.05 | ND | 0.05 | | | | | | |
| Isopropylbenzene | ND | 0.05 | ND | 0.05 | | | | | | |
| 4-Isopropyltoluene | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.05 | ND | 0.05 | | | | | | |
| Tetrachloroethene | ND | 0.05 | ND | 0.05 | | | | | | |
| Toluene | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,1,1-Trichloroethane | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.05 | ND | 0.05 | | | | | | |
| Trichloroethene | ND | 0.05 | ND | 0.05 | | | | | | |
| Trichlorofluoromethane | ND | 0.05 | ND | 0.05 | | | | | | |
| 1,1,2-Trichlorotrifluoroethane | ND | 0.05 | ND | 0.05 | | | | | | |
| Vinyl Chloride | ND | 0.05 | ND | 0.05 | | | | | | |
| Total Xylenes | ND | 0.05 | ND | 0.05 | | | | | | |

| Surrogate Compounds | % Surrogate Recovery (70-130) | | | | |
|---|---|---|---|---|---|
| Dibromofluoromethane | 102 | 103 | | | |
| 1,2-Dichloroethane-d4 | 105 | 101 | | | |
| Toluene-D8 | 103 | 103 | | | |
| 4-Bromofluorobenzene | 93 | 100 | | | |

ND = Not detected at the indicated reporting limit; DF = Dilution Factor; RL = Reporting limit.

MI = Matrix Interference; unquantifiable due to coeluting organics in sample.

# QC REPORT

--- EPA 8260B (VOC) ---

## I. Laboratory Control Sample

Date Analyzed: 09/21/18
LCS ID: VOC180921LC

| ANALYTE | LCS % | ACP %CL |
|---|---|---|
| 1,1-Dichloroethene | 85 | 70-130 |
| Benzene | 90 | 70-130 |
| Trichloroethene | 95 | 70-130 |
| Toluene | 95 | 70-130 |
| Chlorobenzene | 95 | 70-130 |

## II. Matrix Spike/Matrix Spike Duplicate

Date Analyzed: 09/21/18
QC Batch: VOC180921MS

| ANALYTE | MS % | MSD % | RPD | ACP%CL | ACP RPD |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 85 | 80 | 6 | 70-130 | 20 |
| Benzene | 95 | 90 | 5 | 70-130 | 20 |
| Trichloroethene | 95 | 90 | 5 | 70-130 | 20 |
| Toluene | 95 | 95 | 0 | 70-130 | 20 |
| Chlorobenzene | 100 | 95 | 5 | 70-130 | 20 |

## III. Method Blank

Date Analyzed: 09/21/18

Unit: µg/L

| COMPOUND | Reporting Limit | RESULT |
|---|---|---|
| Acetone | 0.05 | ND |
| Benzene | 0.05 | ND |
| Bromodichloromethane | 0.05 | ND |
| Bromoform | 0.25 | ND |
| Bromomethane | 0.25 | ND |
| 2-Butanone (MEK) | 0.25 | ND |
| Carbon Disulfide | 0.25 | ND |
| Carbon Tetrachloride | 0.05 | ND |
| Chlorobenzene | 0.05 | ND |
| Chloroethane | 0.25 | ND |
| Chloroform | 0.05 | ND |
| Chloromethane | 0.25 | ND |
| Cyclohexane | 0.05 | ND |
| Dibromochloromethane | 0.05 | ND |
| 1,2-Dibromo-3-Chloropropane | 0.25 | ND |
| 1,2-Dibromoethane | 0.25 | ND |

| COMPOUND | Reporting Limit | RESULT |
|---|---|---|
| 1,2-Dichlorobenzene | 0.25 | ND |
| 1,3-Dichlorobenzene | 0.25 | ND |
| 1,4-Dichlorobenzene | 0.05 | ND |
| Dichlorodifluoromethane | 0.05 | ND |
| 1,1-Dichloroethane | 0.05 | ND |
| 1,2-Dichloroethane | 0.25 | ND |
| 1,1-Dichloroethene | 0.05 | ND |
| cis-1,2-Dichloroethene | 0.05 | ND |
| trans-1,2-Dichloroethene | 0.05 | ND |
| 1,2-Dichloropropane | 0.05 | ND |
| trans-1,3-Dichloropropene | 0.05 | ND |
| cis-1,3-Dichloropropene | 0.05 | ND |
| Ethylbenzene | 0.05 | ND |
| 2-Hexanone | 0.05 | ND |
| Methyl Acetate | 0.05 | ND |
| Methylcyclohexane | 0.05 | ND |

| COMPOUND | Reporting Limit | RESULT |
|---|---|---|
| Methylene Chloride | 0.05 | ND |
| 4-Methyl-2-Pentanone | 0.05 | ND |
| Styrene | 0.05 | ND |
| Isopropylbenzene | 0.05 | ND |
| 4-Isopropyltoluene | 0.05 | ND |
| 1,1,2,2-Tetrachloroethane | 0.05 | ND |
| Tetrachloroethene | 0.05 | ND |
| Toluene | 0.05 | ND |
| 1,2,4-Trichlorobenzene | 0.05 | ND |
| 1,1,1-Trichloroethane | 0.05 | ND |
| 1,1,2-Trichloroethane | 0.05 | ND |
| Trichloroethene | 0.05 | ND |
| Trichlorofluoromethane | 0.25 | ND |
| 1,1,2-Trichlorotrifluoroethane | 0.05 | ND |
| Vinyl Chloride | 0.25 | ND |
| Total Xylenes | 0.05 | ND |

| Surrogate Compounds | % Surr. Rec. (70-130) |
|---|---|
| Dibromofluoromethane | 97 |
| 1,2-Dichloroethane-d4 | 103 |
| Toluene-D8 | 100 |
| 4-Bromofluorobenzene | 101 |

ND = Not detected at the indicated reporting limit.

# CHAIN OF CUSTODY RECORD

C&E LAB ID 180921C

**C & E Lab**
13824 Bentley Place, Cerritos CA 90703
Tel: (562) 396-5866 Fax: (562) 278-0152

Company Name: Encon Technologies, Inc.
Project Manager: Joe Scatoloni
Project No./Name: 1628 East 81st Street
Tel: 562-777-2200 Fax:
Site Address: 1628 East 81st Street
Los Angeles, Ca. 90001
Sampled By: G. Salley

Page 1 of 1
Sample Conditions
__ Chilled __ Seals Intact
Turn Around Time Desired
[✓ Normal] / Same Day / 24hr / 48hr

| SAMPLE ID | SAMPLING DATE | SAMPLING TIME | SAMPLE MATRIX (air/soil/water) | NO. OF CONTAINERS/TYPE | 8015M TPH-G | 8015M TPH-D | 8021B BTEX MTBE | 418.1 TRPH | 8260B BTEX OXY. | 8260B VOC | CAM METALS | 8270C SVOC | 6010B LEAD | Naphthalene | Tracer Iso-Propanol |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SV1 | 9.21.18 | 932 | air | 1/Tedlar | | | | | | X | | | | | X |
| SV2 | | 926 | | | | | | | | X | | | | | X |
| SV3 | | 943 | | | | | | | | X | | | | | X |
| SV4 | | 954 | | | | | | | | X | | | | | X |
| SV5 | | 1014 | | | | | | | | X | | | | | X |
| SV6 | | 1024 | | | | | | | | X | | | | | X |
| SV7 | | 1034 | | | | | | | | X | | | | | X |
| SV8 | | 1044 | | | | | | | | X | | | | | X |
| SV9 | | 1054 | | | | | | | | X | | | | | X |
| SV10 | | 1104 | | | | | | | | X | | | | | X |
| SV11 | | 1114 | | | | | | | | X | | | | | X |
| SV12 | | 1124 | | | | | | | | X | | | | | X |

| | | | | |
|---|---|---|---|---|
| Relinquished By: | Date/Time: 9/21/18 1350 | Received By: Grace Wang | Date/Time: 9/21/18 13:50 | EDF Required: (circle) Yes No<br>EDF Global ID No.: T |
| Relinquished By: | Date/Time: | Received By: | Date/Time: | Comments: |

# Exhibit C

ENCON Boring Logs

GCA

Telephone:
Fax:

# BORING NUMBER SB1

PAGE 1 OF 1

**PROJECT NAME**

**LOCATION** 1628 81st Street, Los Angeles

**DRILLING METHOD** Direct Push

**SAMPLING METHOD** Sample Sleeve

**GROUND ELEVATION** 140.00

**TOP OF CASING** ----

**LOGGED BY** G. Salley

**REMARKS**

**DATE DRILLED** 9/20/18 - 9/20/18

**CASING TYPE/DIAMETER** ----

**SCREEN TYPE/SLOT** ----

**GRAVEL PACK TYPE** ----

**GROUT TYPE/QUANTITY** ----

**DEPTH TO WATER BELOW TOP OF CASING** NE

**STATIC GROUND WATER ELEVATION**

| PID (ppm) | BLOW COUNTS | RECOVERY (inches) | SAMPLE ID. | EXTENT | DEPTH (ft. BGL) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ■ | Asphalt | 0.3 |
| 0.0 | | | SB1-1 | | | SM | ░ | Silty Sand, Brown, Moist, Fine-Grain Sand | |
| | | | | | | | ░ | Silty Sand, Brown, Moist, Fine-Grain Sand, Silt Content Decreasing | |
| 0.0 | | | SB1-5 | | 5 | | | Bottom of borehole at 5.0 feet. | 5.0 |

GCA

Telephone:
Fax:

# BORING NUMBER SB2

PAGE 1 OF 1

**PROJECT NAME**
**LOCATION** 1628 81st Street, Los Angeles
**DRILLING METHOD** Direct Push
**SAMPLING METHOD** Sample Sleeve
**GROUND ELEVATION** 140.00
**TOP OF CASING** ----
**LOGGED BY** G. Salley
**REMARKS**

**DATE DRILLED** 9/20/18 - 9/20/18
**CASING TYPE/DIAMETER** ----
**SCREEN TYPE/SLOT** ----
**GRAVEL PACK TYPE** ----
**GROUT TYPE/QUANTITY** ----
**DEPTH TO WATER BELOW TOP OF CASING** NE
**STATIC GROUND WATER ELEVATION**

| PID (ppm) | BLOW COUNTS | RECOVERY (inches) | SAMPLE ID. | EXTENT | DEPTH (ft. BGL) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Asphalt | 0.3 |
| 0.0 | | | SB2-1 | | | SM | | Silty Sand,Brown, Moist, Fine-Grain Sand | |
| | | | | | | | | Silty Sand, Dark Brown, Moist, Fine-Gain Sand, Silt Content Decreasing | |
| | | | | | 5 | | | | 5.0 |
| 0.0 | | | SB2-5 | | | | | Bottom of borehole at 5.0 feet. | |

GCA

Telephone:
Fax:

# BORING NUMBER SB5

PAGE 1 OF 1

**PROJECT NAME**
**DATE DRILLED** 9/20/18 - 9/20/18
**LOCATION** 1628 81st Street, Los Angeles
**CASING TYPE/DIAMETER** ----
**DRILLING METHOD** Direct Push
**SCREEN TYPE/SLOT** ----
**SAMPLING METHOD** Sample Sleeve
**GRAVEL PACK TYPE** ----
**GROUND ELEVATION** 140.00
**GROUT TYPE/QUANTITY** ----
**TOP OF CASING** ----
**DEPTH TO WATER BELOW TOP OF CASING** NE
**LOGGED BY** G. Salley
**STATIC GROUND WATER ELEVATION**
**REMARKS**

| PID (ppm) | BLOW COUNTS | RECOVERY (inches) | SAMPLE ID. | EXTENT | DEPTH (ft. BGL) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Asphalt | 0.3 |
| 0.0 | | | SB5-1 | | | | | Silty Sand, Brown, Moist, Fine-Grain Sand | |
| | | | | | | SM | | | |
| | | | | | | | | Silty Sand, Dark Brown, Moist, Fine-Grain Sand, Silt Content Decreasing | |
| 0.0 | | | SB5-5 | | 5 | | | Bottom of borehole at 5.0 feet. | 5.0 |

BORING WELL CONSTRUCTION 1628 81ST STREET, LOS ANGELES.GPJ ENCON.GDT 9/24/18

GCA

Telephone:
Fax:

# BORING NUMBER SB6

PAGE 1 OF 1

| | |
|---|---|
| **PROJECT NAME** | |
| **LOCATION** | 1628 81st Street, Los Angeles |
| **DRILLING METHOD** | Direct Push |
| **SAMPLING METHOD** | Sample Sleeve |
| **GROUND ELEVATION** | 140.00 |
| **TOP OF CASING** | ---- |
| **LOGGED BY** | G. Salley |
| **REMARKS** | |
| **DATE DRILLED** | 9/20/18 - 9/20/18 |
| **CASING TYPE/DIAMETER** | ---- |
| **SCREEN TYPE/SLOT** | ---- |
| **GRAVEL PACK TYPE** | ---- |
| **GROUT TYPE/QUANTITY** | ---- |
| **DEPTH TO WATER BELOW TOP OF CASING** | NE |
| **STATIC GROUND WATER ELEVATION** | |

| PID (ppm) | BLOW COUNTS | RECOVERY (inches) | SAMPLE ID. | EXTENT | DEPTH (ft. BGL) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Asphalt | 0.3 |
| | | | | | | SM | | Silty Sand, Brown, Moist, Fine-Grain Sand | |
| | | | | | | | | Silty Sand, Dark Brown, Moist, Fine-Grain Sand, Silt Content Decreasing | 5.0 |
| 0.0 | | | SB6-5 | | 5 | | | Bottom of borehole at 5.0 feet. | |

GCA

Telephone:
Fax:

# BORING NUMBER SB7

PAGE 1 OF 1

| | | | |
|---|---|---|---|
| **PROJECT NAME** | | **DATE DRILLED** | 9/20/18 - 9/20/18 |
| **LOCATION** | 1628 81st Street, Los Angeles | **CASING TYPE/DIAMETER** | ---- |
| **DRILLING METHOD** | Direct Push | **SCREEN TYPE/SLOT** | ---- |
| **SAMPLING METHOD** | Sample Sleeve | **GRAVEL PACK TYPE** | ---- |
| **GROUND ELEVATION** | 140.00 | **GROUT TYPE/QUANTITY** | ---- |
| **TOP OF CASING** | ---- | **DEPTH TO WATER BELOW TOP OF CASING** | NE |
| **LOGGED BY** | G. Salley | **STATIC GROUND WATER ELEVATION** | |
| **REMARKS** | | | |

| PID (ppm) | BLOW COUNTS | RECOVERY (inches) | SAMPLE ID. | EXTENT | DEPTH (ft. BGL) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ■ | Asphalt | 0.3 |
| | | | | | | SM | ░ | Silty Sand, Brown, Moist, Fine-Grain Sand | |
| | | | | | 5 | | ░ | Silty Sand, Brown, Moist, Fine-Grain Sand, Silt Content Decreasing | 5.0 |
| 0.0 | | | SB7-5 | | | | | Bottom of borehole at 5.0 feet. | |

GCA
Telephone:
Fax:

# BORING NUMBER SB8

PAGE 1 OF 1

**PROJECT NAME**
**LOCATION** 1628 81st Street, Los Angeles
**DRILLING METHOD** Direct Push
**SAMPLING METHOD** Sample Sleeve
**GROUND ELEVATION** 140.00
**TOP OF CASING** ----
**LOGGED BY** G. Salley
**REMARKS**

**DATE DRILLED** 9/20/18 - 9/20/18
**CASING TYPE/DIAMETER** ----
**SCREEN TYPE/SLOT** ----
**GRAVEL PACK TYPE** ----
**GROUT TYPE/QUANTITY** ----
**DEPTH TO WATER BELOW TOP OF CASING** NE
**STATIC GROUND WATER ELEVATION**

| PID (ppm) | BLOW COUNTS | RECOVERY (inches) | SAMPLE ID. | EXTENT | DEPTH (ft. BGL) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ■ | Asphalt | 0.3 |
| 0.0 | | | SB8-1 | | | | | Silty Sand, Brown, Moist, Fine-Grain Sand | |
| | | | | | | SM | | | |
| | | | | | | | | Silty Sand, Brown, Moist, Fine-Grain Sand, Silt Content Decreasing | |
| | | | | | 5 | | | Bottom of borehole at 5.0 feet. | 5.0 |
| 0.0 | | | SB8-5 | | | | | | |

GCA

Telephone:
Fax:

# BORING NUMBER SB9

PAGE 1 OF 1

**PROJECT NAME**
**DATE DRILLED** 9/20/18 - 9/20/18
**LOCATION** 1628 81st Street, Los Angeles
**CASING TYPE/DIAMETER** ----
**DRILLING METHOD** Direct Push
**SCREEN TYPE/SLOT** ----
**SAMPLING METHOD** Sample Sleeve
**GRAVEL PACK TYPE** ----
**GROUND ELEVATION** 140.00
**GROUT TYPE/QUANTITY** ----
**TOP OF CASING** ----
**DEPTH TO WATER BELOW TOP OF CASING** NE
**LOGGED BY** G. Salley
**STATIC GROUND WATER ELEVATION**
**REMARKS**

| PID (ppm) | BLOW COUNTS | RECOVERY (inches) | SAMPLE ID. | EXTENT | DEPTH (ft. BGL) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Asphalt | 0.3 |
| 0.0 | | | SB9-1 | | | SM | | Silty Sand, Brown, Moist, Fine-Grain Sand | |
| | | | | | | | | Silty Sand, Dark Brown, Moist, Fine-Grain Sand, Silt Content Decreasing | 5.0 |
| 0.0 | | | SB9-5 | | 5 | | | Bottom of borehole at 5.0 feet. | |

GCA

Telephone:
Fax:

# BORING NUMBER SB10

PAGE 1 OF 1

**PROJECT NAME**

**DATE DRILLED** 9/20/18 - 9/20/18

**LOCATION** 1628 81st Street, Los Angeles

**CASING TYPE/DIAMETER** ----

**DRILLING METHOD** Direct Push

**SCREEN TYPE/SLOT** ----

**SAMPLING METHOD** Sample Sleeve

**GRAVEL PACK TYPE** ----

**GROUND ELEVATION** 140.00

**GROUT TYPE/QUANTITY** ----

**TOP OF CASING** ----

**DEPTH TO WATER BELOW TOP OF CASING** NE

**LOGGED BY** G. Salley

**STATIC GROUND WATER ELEVATION**

**REMARKS**

| PID (ppm) | BLOW COUNTS | RECOVERY (inches) | SAMPLE ID. | EXTENT | DEPTH (ft. BGL) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ■ | Asphalt | 0.3 |
| | | | | | | SM | ░ | Silty Sand, Brown, Moist, Fine-Grain Sand | |
| | | | | | | | ░ | Silty Sand, Brown, Moist, Fine-Grain Sand, Silt Content Decreasing | |
| | | | | | 5 | | | | 5.0 |
| 0.0 | | | SB10-5 | | | | | Bottom of borehole at 5.0 feet. | |

GCA

Telephone:
Fax:

# BORING NUMBER SB11

PAGE 1 OF 1

|  |  |  |  |
|---|---|---|---|
| **PROJECT NAME** |  | **DATE DRILLED** | 9/20/18 - 9/20/18 |
| **LOCATION** | 1628 81st Street, Los Angeles | **CASING TYPE/DIAMETER** | ---- |
| **DRILLING METHOD** | Direct Push | **SCREEN TYPE/SLOT** | ---- |
| **SAMPLING METHOD** | Sample Sleeve | **GRAVEL PACK TYPE** | ---- |
| **GROUND ELEVATION** | 140.00 | **GROUT TYPE/QUANTITY** | ---- |
| **TOP OF CASING** | ---- | **DEPTH TO WATER BELOW TOP OF CASING** | NE |
| **LOGGED BY** | G. Salley | **STATIC GROUND WATER ELEVATION** |  |
| **REMARKS** |  |  |  |

| PID (ppm) | BLOW COUNTS | RECOVERY (inches) | SAMPLE ID. | EXTENT | DEPTH (ft. BGL) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  | Asphalt | 0.3 |
|  |  |  |  |  |  | SM |  | Silty Sand, Brown, Moist, Fine-Grain Sand |  |
|  |  |  |  |  |  |  |  | Silty Sand, Brown, Moist, Fine-Grain Sand, Silt Content Decreasing | 5.0 |
| 0.0 |  |  | SB11-5 |  | 5 |  |  | Bottom of borehole at 5.0 feet. |  |

GCA

Telephone:
Fax:

# BORING NUMBER SB12

PAGE 1 OF 1

**PROJECT NAME**
**DATE DRILLED** 9/20/18 - 9/20/18
**LOCATION** 1628 81st Street, Los Angeles
**CASING TYPE/DIAMETER** ----
**DRILLING METHOD** Direct Push
**SCREEN TYPE/SLOT** ----
**SAMPLING METHOD** Sample Sleeve
**GRAVEL PACK TYPE** ----
**GROUND ELEVATION** 140.00
**GROUT TYPE/QUANTITY** ----
**TOP OF CASING** ----
**DEPTH TO WATER BELOW TOP OF CASING** NE
**LOGGED BY** G. Salley
**STATIC GROUND WATER ELEVATION**
**REMARKS**

| PID (ppm) | BLOW COUNTS | RECOVERY (inches) | SAMPLE ID. | EXTENT | DEPTH (ft. BGL) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Asphalt | 0.3 |
| 0.0 | | | SB12-1 | | | SM | | Silty Sand, Brown, Moist, Fine-Grain Sand | |
| | | | | | | | | Silty Sand, Brown, Moist, Fine-Grain Sand, Silt Content Decreasing | |
| 0.0 | | | SB12-5 | | 5 | | | Bottom of borehole at 5.0 feet. | 5.0 |

**Exhibit D**

WEECO Phase I Environmental Site Assessment Report, text only,
dated April 16, 2018

(WEECO) WESTERN ENVIRONMENTAL ENGINEERS CO.

12610 Westminster Ave., Unit C
Santa Ana, CA 92706

(714) 542-2644
Fax: (714) 542-2520

WEECO Project #2018-6739

# Phase I Environmental Site Assessment

**Project Site**
**1628-1638 East 81st Street, 1619-1659 East 82nd Street & 8151 South Maie Avenue**
**Los Angeles, California 90001**

**Prepared for**
**EOTT Maie Avenue, LLC**
**301 South Harvard Boulevard**
**Los Angeles, California 90020**

**April 16, 2018**

Prepared by ____________
Han sol Yoo
Project Engineer

Reviewed by ____________
James Yoon, REPA
Environmental Professional

# PHASE I ENVIRONMENTAL SITE ASSESSMENT
## For Property at:

## 1628-1638 EAST 81ST STREET, 1619-1659 EAST 82ND STREET
## &
## 8151 SOUTH MAIE AVENUE
## LOS ANGELES, CALIFORNIA 90001

APRIL 16, 2018

**Environmental Professional Certification:** I declare that, to best of my professional knowledge and belief, I meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312.10 (All Appropriate Inquiry).

**James Yoon, Environmental Professional**
**Principal**

**Standard Certification:** I have the specific qualifications based on educations, training and experience to assess a *property* of nature, history and setting of the Subject Property. I have developed and performed the all appropriate inquiries (AAI) in conformance with the standards and practices set forth in 40 CFR part 312.

**James Yoon, Environmental Professional**
**Principal**

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| **Figure 1** | Site Location Map |
| **Figure 2** | Site Plot Plan |
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__Appendices__

| | |
|---|---|
| **Appendix A** | Site Photographs |
| **Appendix B** | Database Report |
| **Appendix C** | Historical Record Search |
| **Appendix D** | Public Agency Records / Other Relevant Record |
| **Appendix E** | Qualifications |

**Phase I Environmental Site Assessment**
**1628-1638 East 81st Street, 1619-1659 East 82nd Street & 8151 South Maie Avenue,**
**Los Angeles, California 90001**

# EXECUTIVE SUMMARY

Western Environmental Engineers Company (WEECO) has performed a Phase I Environmental Site Assessment (ESA) in general accordance with the scope of work and limitations of ASTM Standard Practice E1527-13, the Environmental Protection Agency Standards and Practices for All Appropriate Inquiries (AAI) (40 CFR Part 312) and set forth by **EOTT Maie Avenue, LLC** for the property located at **1628-1638 E. 81st Street, 1619-1659 E. 82nd Street & 8151 S. Maie Avenue, Los Angeles, California (the "subject property")**. The Phase I Environmental Site Assessment is designed to provide **EOTT Maie Avenue, LLC** with an assessment concerning environmental conditions (limited to those issues identified in the report) as they exist at the subject property.

On April 4, 2018, WEECO investigator (Han sol Yoo) conducted a site investigation of the subject property.

## Property Description:

The subject property located at 1628-1638 E. 81st Street, 1619-1659 E. 82nd Street & 8151 S. Maie Avenue, in the City of Los Angeles, is legally described by the assessor's parcel numbers: 6027-003-022, 6027-003-023, 6027-003-024, 6027-003-025, 6027-003-027, 6027-003-028, 6027-003-029, 6027-003-030, and 6027-003-031. According to the Los Angeles County, Office of the Assessor, the subject site is an approximately 44,790 square foot total lot, and has been developed with nine (9) industrial buildings approximately 34,060 square feet in size total. The subject buildings were constructed in 1978, respectively.

The subject property is currently occupied by an asphalt paved parking area. Onsite operations consists of an asphalt paved parking area and storage area.

According to available historical sources, prior to 1952, the subject property was occupied by a truck yard and truck repair facility. From 1963 to 1972, the subject property was occupied by seven (7) buildings. From 1980 to 2018, the subject property has been occupied by an asphalt paved parking lot.

The immediately surrounding properties consist of residential developments (Residential / 1629-1639 E. 81st Street) to the north across 81st Street; residential developments (Residential / 1620-1642 E. 82nd Street) to the south across 82nd Street; industrial development (Industrial Building / 8122 S. Maie Avenue) to the east across Maie Avenue; and residential developments (Residential / 1624 E. 81st Street and 1615-1617 E. 82nd Street) to the west.

The groundwater depth in the vicinity of the subject property ranges from 40 to 90 feet bgs (data obtained from GeoTracker from a closed LUST site, 8200 S. Compton Avenue). The regional groundwater flow is expected to follow the topographic gradient, which is towards the South.

**Federal and State Environmental Records Search Databases:**

The subject property was not identified in the regulatory database report, as further discussed in Section 5.0.

## FINDINGS

A *recognized environmental condition (REC)* refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment. The following was identified during the course of this assessment:

- Based on the Sanborn Fire Insurance Map and the Historical Aerial Photomaps, the subject site used to be occupied by a truck storage yard and truck repair facility. No records of any soil sampling report regarding the previous truck repair facility were found. This means the current condition of the soil is unknown.

A *controlled recognized environmental condition (CREC)* refers to a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. The following was identified during the course of this assessment:

- WEECO did not identify any controlled recognized environmental condition during the course of this assessment.

A *historical recognized environmental condition (HREC)* refers to a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls. The following was identified during the course of this assessment:

- WEECO did not identify any historical recognized environmental conditions during the course of this assessment.

An *environmental issue* refers to environmental concerns identified by WEECO, which do not qualify as RECs; however, warrant further discussion. The following was identified during the course of this assessment:

- WEECO did not identify any environmental issue during the course of this assessment.

## CONCLUSIONS, OPINIONS AND RECOMMENDATIONS

WEECO has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of **1628-1638 E. 81st Street, 1619-1659 E. 82nd Street & 8151 S. Maie Avenue, in the City of Los Angeles, Los Angeles County, California** (the "subject property"). Any exceptions to, or deletions from, this practice are described in Section 1.5 of this report.

This assessment has revealed evidence of recognized environmental conditions (RECs) in connection with the subject property because a previous truck yard and truck repair facility was present at the site. Therefore, WEECO recommends that a Phase II Environmental Site Assessment be performed at the Property (1628-1638 E. 81st Street) in order to determine if there was any contamination due to the previous truck repair facility.

# 1.0 INTRODUCTION

Western Environmental Engineers Company (WEECO) has performed a Phase I Environmental Site Assessment (ESA) in general conformance with the scope and limitations of ASTM Standard Practice E1527-13 and the Environmental Protection Agency Standards and Practices for All Appropriate Inquiries (AAI) (40 CFR Part 312) for the property located at **1628-1638 E. 81st Street, 1619-1659 E. 82nd Street & 8151 S. Maie Avenue, in the City of Los Angeles, Los Angeles County, California** (the "subject property"). Any exceptions to, or deletions from, this scope of work are described in the report.

## 1.1 PURPOSE AND OBJECTIVE

The purpose of this practice is to define good commercial and customary practice for conducting an *environmental site assessment* of a parcel(s) of *commercial real estate* with respect to the range of contaminants within the scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and *petroleum products*. As such, this practice is intended to permit a *User (Client, Purchaser, Lender, Owner)* to satisfy one of the requirements to qualify for the *innocent landowner*, *contiguous property owner*, or *bona fide prospective purchaser* limitations on CERCLA liability (hereinafter, the "*landowner liability protections*," or "*LLPs*"): that is, the practice that constitutes "*all appropriate inquiry* into the previous ownership and uses of the *Property* consistent with good commercial or customary practice" as defined at 42 U.S.C. §9601(35)(B).

Another purpose of this *ESA* is to assist the *Client,* in its underwriting of a proposed mortgage loan on the Property, if this *Report* is prepared as a part of a pre-financing environmental due diligence, and to identify *Recognized Environmental Conditions (RECs)* in connection with the Property described in this *Report.*

The ASTM Standard Practice E1527-13 defines *a Recognized Environmental Condition (REC)* as the presence or likely presence of any *hazardous substances* or *petroleum products* in, on, or at a *property*: (*1*) due to *release to the environment*; (*2*) under conditions indicative of a *release* to the *environment*; or (*3*) under conditions that pose a *material threat* of a future *release* to the *environment.* Conditions determined to be *de minimis* generally do not present a threat to human health or the *environment* and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis conditions* are not *Recognized Environmental Conditions* or *Controlled Recognized Environmental Conditions. De minimis conditions* are not *Recognized Environmental Conditions.*

*Controlled Recognized Environmental Condition (CREC)* is a *Recognized Environmental Condition* resulting from a past *release* of *hazardous substances* or *petroleum products* that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with *hazardous substances* or *petroleum products* allowed to remain in place subject to the implementation of required controls (for example, *property use restrictions, activity and use limitations, institutional controls*, or *engineering controls*).

*A Historical Recognized Environmental Condition (HREC)* is *a* past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the *Property* and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the *Property* to any required controls (for example, *property* use restrictions, *activity and use limitations*, *institutional controls*, or *engineering controls*).

Referenced Documents for ASTM Standard Practice E1527-13:

- ASTM E2600 Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions
- ASTM E2091 Guide for Use of Activity and Use Limitations, Including Institutional and Engineering Controls
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA" or "Superfund"), as amended by Superfund Amendments and Reauthorization
- Act of 1986 ("SARA") and Small Business Liability Relief and Brownfields Revitalization Act of 2002 ("Brownfields Amendments"), 42 U.S.C. §§9601 et seq.
- "All Appropriate Inquiries" Final Rule, 40 C.F.R. Part 312 Chapter 1 EPA, Subchapter J-Superfund, Emergency
- Freedom of Information Act, 5 U.S.C. §552, as amended by Public Law No. 104-231, 110 Stat. 3048
- Emergency Planning and Community Right-To-Know Act of 1986 ("EPCRA"), 42 U.S.C. §§11001et seq.
- Resource Conservation and Recovery Act (also referred to as the Solid Waste Disposal Act), as amended ("RCRA"), 42
  Planning, and Community Right-To-Know Programs, 40 C.F.R Parts 300-399 National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300
- OSHA Hazard Communication Regulation, 29 C.F.R. §1910.1200

## 1.2 SCOPE OF WORK

The scope of work for this ESA is in general accordance with the requirements of ASTM Standard E1527-13. This assessment included: 1) a property and adjacent site reconnaissance; 2) interviews with key personnel; 3) a review of historical sources; 4) a review of regulatory agency records; and 5) a review of a regulatory database report provided by a third-party vendor. WEECO contacted local agencies, such as environmental health departments, fire departments and building departments in order to determine any current and/or former hazardous substances usage, storage and/or releases of hazardous substances on the subject property. Additionally, WEECO researched information on the presence of activity and use limitations (AULs) at these agencies. As defined by ASTM E1527-13, AULs are the legal or physical restrictions or limitations on the use of, or access to, a site or facility: 1) to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil or groundwater on the subject property; or 2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment. These legal or physical restrictions, which may include institutional and/or engineering controls (IC/ECs), are intended to prevent adverse impacts to individuals or populations that may be exposed to hazardous substances and petroleum products in the soil or groundwater on the property.

If requested by Client, this report may also include the identification, discussion of, and/or limited sampling of asbestos-containing materials (ACMs), lead-based paint (LBP), mold, and/or radon.

### 1.3 LIMITATION

WEECO warrants that the findings and conclusions contained herein were accomplished in accordance with the methodologies set forth in the Scope of Work. These methodologies are described as representing good commercial and customary practice for conducting an ESA of a property for the purpose of identifying recognized environmental conditions. There is a possibility that even with the proper application of these methodologies there may exist on the subject property conditions that could not be identified within the scope of the assessment or which were not reasonably identifiable from the available information. WEECO believes that the information obtained from the record review and the interviews concerning the subject property is reliable. However, WEECO cannot and does not warrant or guarantee that the information provided by these other sources is accurate or complete. The conclusions and findings set forth in this report are strictly limited in time and scope to the date of the evaluations. The conclusions presented in the report are based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of agreed-upon services or the time and budgeting restraints imposed by the Client. No other warranties are implied or expressed.

Some of the information provided in this report is based upon personal interviews, and research of available documents, records, and maps held by the appropriate government and private agencies. This report is subject to the limitations of historical documentation, availability, and accuracy of pertinent records and the personal recollections of those persons contacted.

This practice does not address requirements of any state or local laws or of any federal laws other than the all appropriate inquiry provisions of the LLPs. Further, this report does not intend to address all of the safety concerns, if any, associated with the subject property.

Environmental concerns, which are beyond the scope of a Phase I ESA as defined by ASTM, include the following: ACMs, LBP, radon, and lead in drinking water. These issues may affect environmental risk at the subject property and may warrant discussion and/or assessment; however, are considered non-scope issues. If specifically requested by the Client, these non-scope issues are discussed in Section 7.3.

## 1.4 USER RELIANCE

Western Environmental Engineer Company (WEECO) has performed a Phase I Environmental Site Assessment for the property located at **1628-1638 E. 81st Street, 1619-1659 E. 82nd Street & 8151 S. Maie Avenue, Los Angeles, California (Subject Property)**. This report has been prepared for the sole use of **EOTT Maie Avenue, LLC (Client).**

An environmental site assessment meeting or exceeding this practice and completed less than one (1) year prior to the date of acquisition is presumed to be valid under this standard. In order to maintain landowner liability protections, the user also has a "continuing obligation to not interfere with activity and use limitations associated with the property," must take "reasonable steps to prevent releases" and must "comply with legal release reporting obligations." Further, it is the goal of this study to identify business risks related to the property associated with environmental conditions. This investigation is not an environmental compliance audit and is not designed to determine if the operations of an existing facility are in compliance with applicable environmental laws and regulations.

While this report provides an overview of potential environmental concerns, both past and present, the environmental assessment is limited by the availability of information at the time of the assessment. It is possible that unreported disposal of waste or illegal activities impairing the environmental status of the property may have occurred which could not be identified. The conclusions and recommendations regarding environmental conditions that are presented in this report are based on a scope of work authorized by the Client. Note, however, that virtually no scope of work, no matter how exhaustive, can identify all contaminants or all conditions above and below ground.

This report has been prepared in accordance with generally accepted environmental methodologies referred to in ASTM E-1527-13, and contains all of the limitations inherent in these methodologies. No other warranties, expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report. The conclusions of this report are based in part, on the information provided by others. The possibility remains that unexpected environmental conditions may be encountered at the site in locations not specifically investigated. The services performed and outlined in this report were based, in part, upon visual observations of the site and attendant structures. Our opinion cannot be extended to portions of the site that were unavailable for direct observation, reasonably beyond the control of WEECO. The objective of this report was to assess environmental conditions at the site, within the context of our contract and existing environmental regulations within the applicable jurisdiction. Evaluating compliance of past or future owners with applicable local, provincial, and federal government laws and regulations was not included in our contract for services. Our observations relating to the condition of environmental media at the site are described in this report. It should be noted that compounds or materials other than those described could be present in the site environment.

This report has been prepared for the sole use of **EOTT Maie Avenue, LLC.** The contents should not be relied upon by any other parties without the express written consent of **EOTT Maie Avenue, LLC and WEECO.**

## 1.5 LIMITING CONDITIONS

The findings and conclusions contain all of the limitations inherent in these methodologies that are referred to in ASTM E1527-13.

Specific limitations and exceptions to this ESA are more specifically set forth below:

- Interviews with past or current owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap. Based on information obtained from other historical sources (as discussed in Section 3.0), this data gap is not expected to alter the findings of this assessment.

- Information relative to deed restrictions and environmental liens, a title search, and a pre-survey questionnaire was not provided by the Report User.

- WEECO was unable to determine the property use at 5-year intervals, which constitutes a data gap. Information concerning historical use of the subject property was unavailable for various time frame intervals. Except for property tax files and recorded land title records, which were not considered to be sufficiently useful, WEECO reviewed all standard historical sources and conducted appropriate interviews.

# 2.0 SITE DESCRIPTION

## 2.1 SITE LOCATION AND LEGAL DESCRIPTION

The subject property at **1628-1638 E. 81st Street, 1619-1659 E. 82nd Street & 8151 S. Maie Avenue** is an asphalt paved parking area located on the west side of Maie Avenue between 81st Street and 82md Street, in the City of Los Angeles, County of Los Angeles within the State of California. According to the Los Angeles County Assessor, the subject property is described as Assessor's Parcel Numbers (APNs): 6027-003-022, 6027-003-023, 6027-003-024, 6027-003-025, 6027-003-027, 6027-003-028, 6027-003-029, 6027-003-030, and 6027-003-031.

Please refer to Figure 1: Site Location Map, Figure 2: Site Plan, Figure 3: Topographic & Aerial Photo Map, and Appendix A: Site Photographs for the location and site characteristics of the subject property.

## 2.2 CURRENT PROPERTY USE

The subject property is currently occupied by an asphalt paved parking area. Onsite operations consists of an asphalt paved parking area and storage area.

The subject property is designated for industrial / commercial development by the County of Los Angeles.

The subject property was not identified in the regulatory database report, as further discussed in Section 5.0.

## 2.3 CURRENT USE OF ADJACENT PROPERTIES

During the Site Reconnaissance, WEECO's field assessor also visually inspected and documented the use of those properties, which adjoin the subject properties. The observations made by Mr. Hansol Yoo of the adjoining properties are as follows:

NORTH

- The properties to the north of the subject property across 81st Street are used for residential purposes (Residential / 1629-1639 E. 81st Street).

EAST

- The property to the east of the subject property across Maie Avenue is used for an industrial purpose (Industrial Building / 8122 S. Maie Avenue).

SOUTH

- The properties to the south of the subject property across 82nd Street are used for residential purposes (Residential / 1620-1642 E. 82nd Street).

WEST

- The properties to the west of the subject property are used for residential purposes (Residential / 1624 E. 81st Street and 1615-1617 E. 82nd Street).

## 2.4 PHYSICAL SETTING SOURCES

### 2.4.1 USGS Topographic Map Review

The United States Geological Survey (USGS) *South Gate, California* Quadrangle 7.5-minute series topographic map was reviewed for this ESA.

USGS topographic map indicates that the subject property and the vicinity had established medium duty and light duty roads in their current configurations. The ground elevation level at the subject site is approximately 136 feet above the mean sea level.

The slope in the general topographic region of the Project appears to be to the south.

The Source of these topographic maps is from the US Department of the Interior, Geological Survey.

The topography of the site area demonstrates a complex elevation contour. The topography of the local area can be useful in recognizing the direction in which surface runoff and groundwater will generally flow. However due to the creation of sewers, drains and other man made water canals, the flow of surface runoff is not necessarily the same as would be expected by the topography. The groundwater of the local area can also differ from the general topography due to a variation of depth of the ground water, the geology of the subsurface soil in the area.

A copy of the most recent topographic map is included as Figure 3 of this report.

### 2.4.2 Geology and Hydrogeology

The subject property is in the Los Angeles Forebay Area, located in the northern part of the Central Basin. In general, it is a free groundwater area; however, in the course of this investigation it became evident that the Bellflower aquiclude extends into the southerly portion of the forebay area. The aquiclude extends in this area contains a high percentage of sand, and vertical percolation of water is apparently more rapid here than in other portions of the basin covered by it. Where the Bellflower aquiclude is missing within the forebay area, the aquifers are in direct hydraulic continuity with the surface.

The Los Angeles Forebay Area is overlain by parts of the La Brea, Los Angeles and Montebello Plains. The known water-bearing sediments extend to a depth of 1600 feet (1440 feet below sea level) and include recent alluvium, the Lakewood formation and the San Pedro formation. Some fresh water also may be present in the Pliocene and Miocene rocks underlying these formations in this area.

Recent alluvium in the Los Angeles Forebay Area is found on the Los Angeles Plain and in the Los Angeles Narrows. It attains a maximum thickness of 160 feet, and includes the western arm of Gaspur aquifer and the parts of the Semi-perched aquifer and Bellflower aquiclude lying west and south of the Los Angeles River.

The groundwater depth in the vicinity of the subject property ranges from 40 to 90 feet bgs (data obtained from GeoTracker from a closed LUST site, 8200 S. Compton Avenue). The regional groundwater flow is expected to follow the topographic gradient, which is towards the south.

# 3.0 HISTORICAL INFORMATION

WEECO obtained historical use information about the subject property from a variety of sources.

## 3.1 HISTORICAL TENANT REPORT REVIEW

WEECO reviewed historical Tenant Report obtained from BBL (Environmental Record Search) on **April 9, 2018** for past names and businesses that were listed for the subject property and adjacent properties.

BBL's Historical Tenant Report was reviewed which identifies the tenants (be it the owner or lessee) of the subject site over the last 50 years. Sources for the research includes various city directories, street address directories and criss-cross directories published from 1920 forward. Based on the Historical Tenant Report, from 1970 to 2018, the subject property had no commercial listings. Copies of select Historical Tenant Report are included in Appendix C of this report.

In addition to the actual site address the following neighboring addresses have been researched for commercial listings as well:

1201 E 82ND ST
1221 E 82ND ST
1527 E 82ND ST
1619 E 82ND ST
1628 E 81ST ST
1638 E 81ST ST
1659 E 82ND ST
7766 MAIE AVE
7800 MAIE AVE
7802 MAIE AVE
7804 MAIE AVE
7816 MAIE AVE
8100 MAIE AVE
8122 MAIE AVE
8151 MAIE AVE
8555 MAIE AVE

**2018**

| | |
|---|---|
| 1201 E 82ND ST | ST MALACHY CCD |
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7766 MAIE AVE | CRUSH SCRUBS |
| 7804 MAIE AVE | L A SPRING |
| 8100 MAIE AVE | BLAKELY JR, GEORGE W MD |
| 8122 MAIE AVE | CIENA<br>JOSEPH & ABIGAIL CORP<br>RAYTIN MARKETING INC |
| **8151 MAIE AVE** | **No Commercial Listings** |
| 8555 MAIE AVE | ATM |

**2016**

| | |
|---|---|
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7804 MAIE AVE | L A SPRING |
| 7816 MAIE AVE | ABANTOS AUTOMOTIVE CORES WRHSE |
| 8100 MAIE AVE | BLAKELY JR, GEORGE W MD |
| 8122 MAIE AVE | ABADA INC<br>CIENA<br>CREATIVE CLOTHING COLLECT INC<br>RAYTIN MARKETING INC |
| **8151 MAIE AVE** | **No Commercial Listings** |
| 8555 MAIE AVE | ATM |

**2014**

| | |
|---|---|
| 1201 E 82ND ST | ST MALACHY CCD |
| 1221 E 82ND ST | ST MALACHY CATHOLIC CHURCH |
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7766 MAIE AVE | 3RD STAGE FASHION |
| 7804 MAIE AVE | L A SPRING |
| 7816 MAIE AVE | ABANTO'S BODY & AUTO PARTS |
| 8100 MAIE AVE | CORRECTIONS DEPT |
| 8122 MAIE AVE | CIENA<br>SAMSUNG EXPRESS MOVING |
| **8151 MAIE AVE** | **No Commercial Listings** |

**2012**

| | |
|---|---|
| 1201 E 82ND ST | ST MALACHY CCD |
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7804 MAIE AVE | L A SPRING |
| 8100 MAIE AVE | CORRECTIONS DEPT |
| 8122 MAIE AVE | C A SAMSUNG EXPRESS INC<br>CIENA |
| **8151 MAIE AVE** | **No Commercial Listings** |

**2010**

| | |
|---|---|
| 1201 E 82ND ST | ST MALACHY CCD |
| 1221 E 82ND ST | ST MALACHY CATHOLIC CHURCH |
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7804 MAIE AVE | L A SPRING |
| 8100 MAIE AVE | CORRECTIONS DEPT |
| 8122 MAIE AVE | CREATIVE CLOTHING COLLECTION<br>M J TEXTILE |
| **8151 MAIE AVE** | **No Commercial Listings** |

**2008**

| | |
|---|---|
| 1201 E 82ND ST | ST MALACHY CCD |
| 1221 E 82ND ST | ST MALACHY CATHOLIC CHURCH |
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7766 MAIE AVE | LUXURY LOUNGERS INC |
| 7800 MAIE AVE | D J FASHION |
| 7804 MAIE AVE | L A SPRING |
| 8100 MAIE AVE | CORRECTIONS DEPT |

| | |
|---|---|
| 8122 MAIE AVE | MAJESTIC LOGISTICS & WRHSNG |
| **8151 MAIE AVE** | **No Commercial Listings** |

**2006**

| | |
|---|---|
| 1201 E 82ND ST | ST MALACHY CCD |
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7800 MAIE AVE | D J FASHION |
| 7804 MAIE AVE | L A SPRING |
| 7816 MAIE AVE | GSM CAMACHO INC |
| 8100 MAIE AVE | CORRECTIONS DEPT |
| **8151 MAIE AVE** | **No Commercial Listings** |

**2004**

| | |
|---|---|
| 1221 E 82ND ST | ST MALACHY CHURCH |
| 1527 E 82ND ST | PHOTOGRAPHICS |
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7766 MAIE AVE | LUXOR FURNISHINGS INC |
| 7804 MAIE AVE | L A SPRING |
| 7816 MAIE AVE | CUSHION'S UNLIMITED |
| 8100 MAIE AVE | CORRECTIONS DEPT |
| **8151 MAIE AVE** | **No Commercial Listings** |

**2000**

| | |
|---|---|
| 1221 E 82ND ST | ST MALACHY CHURCH |
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7766 MAIE AVE | LUXOR FURNISHINGS INC |
| 7800 MAIE AVE | D J FASHION |
| 7802 MAIE AVE | NEW AIR GARMENT INC |
| 8100 MAIE AVE | CORRECTIONS DEPT |
| 8122 MAIE AVE | ATLAS MILL SUPPLY |
| **8151 MAIE AVE** | **No Commercial Listings** |

**1998**

| | |
|---|---|
| 1221 E 82ND ST | ST MALACHY CHURCH |
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7804 MAIE AVE | USA FURNITURE MFR |
| 8100 MAIE AVE | CORRECTIONS DEPT |
| 8122 MAIE AVE | ATLAS MILL SUPPLY |
| **8151 MAIE AVE** | **No Commercial Listings** |

**1994**

| | |
|---|---|
| **1628 E 82ND ST** | **No Commercial Listings** |
| 7766 MAIE AVE | THREE KIDS CUT & FUSING SVC |
| 7804 MAIE AVE | U S A FURNITURE MFR |
| 7816 MAIE AVE | CORONADO MFG CO |
| 8122 MAIE AVE | RAFFLE ENTERPRISES MILL SUPPLY |
| **8151 MAIE AVE** | **No Commercial Listings** |

**1990**

| | |
|---|---|
| **1619 E 82ND ST** | **No Listings** |
| **1628 E 81ST ST** | **No Listings** |
| **1628 E 82ND ST** | **No Commercial Listings** |

| | |
|---|---|
| **1638 E 81ST ST** | **No Listings** |
| **1659 E 82ND ST** | **No Listings** |
| **8151 MAIE AVE** | **No Commercial Listings** |

1985

| | |
|---|---|
| **1619 E 82ND ST** | **No Listings** |
| **1628 E 81ST ST** | **No Listings** |
| **1628 E 82ND ST** | **No Commercial Listings** |
| **1638 E 81ST ST** | **No Listings** |
| **1659 E 82ND ST** | **No Listings** |
| **8151 MAIE AVE** | **No Commercial Listings** |

1980

| | |
|---|---|
| **1619 E 82ND ST** | **No Listings** |
| **1628 E 81ST ST** | **No Listings** |
| **1628 E 82ND ST** | **No Commercial Listings** |
| **1638 E 81ST ST** | **No Listings** |
| **1659 E 82ND ST** | **No Listings** |
| **8151 MAIE AVE** | **No Commercial Listings** |

1975

| | |
|---|---|
| **1619 E 82ND ST** | **No Listings** |
| **1628 E 81ST ST** | **No Listings** |
| **1628 E 82ND ST** | **No Commercial Listings** |
| **1638 E 81ST ST** | **No Listings** |
| **1659 E 82ND ST** | **No Listings** |
| **8151 MAIE AVE** | **No Commercial Listings** |

1970

| | |
|---|---|
| **1619 E 82ND ST** | **No Listings** |
| **1628 E 81ST ST** | **No Listings** |
| **1628 E 82ND ST** | **No Commercial Listings** |
| **1638 E 81ST ST** | **No Listings** |
| **1659 E 82ND ST** | **No Listings** |
| **8151 MAIE AVE** | **No Commercial Listings** |

- **Data Gap and Data Failure**

According to ASTM E1527-13, data gaps occur when the Environmental Professional is unable to obtain information required, despite good faith efforts to gather such information. Data failure is one type of data gap. According to ASTM E1527-13 "data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met". Pursuant to ASTM Standards, historical sources are required to document property use back to the property's first developed use or back to 1940, whichever is earlier. However, pursuant to ASTM #1527-13, Section 8.3.2.1, if the specific use of the property appears unchanged over a period longer than five years, then it is not required by this practice to research the use during that period.

### 3.2 HISTORICAL AERIAL PHOTO MAP REVIEW

WEECO obtained available aerial photographs of the subject property and surrounding area from BBL (Environmental Record Search) on April 3, 2018 and NETR Online - Historical Aerial Photo. A historical map review was conducted to better understand the historical use of the subject site.

| Map Date: | Description: |
|---|---|
| 2014 | Same as current aerial photo map |
| 2012 | Same as 2014 aerial photo map |
| 2010 | Same as 2012 aerial photo map |
| 2009 | Same as 2010 aerial photo map |
| 2005 | Same as 2009 aerial photo map |
| 2004 | Same as 2005 aerial photo map |
| 2003 | Same as 2004 aerial photo map |
| 1994 | Same as 2003 aerial photo map |
| 1980 | Same as 1994 aerial photo map |
| 1972 | Seven (7) Buildings Present |
| 1963 | Same as 1972 aerial photo map |
| 1952 | Truck Storage Yard and Truck Repair |

Copies of select aerial photographs are included in Figure 3 of this report.

### 3.3 SANBORN FIRE INSURANCE MAP

WEECO reviewed the collection of Sanborn Fire insurance maps from BBL (Environmental data Resources) on April 4, 2018.

The Sanborn map collection is a series of large-scale maps that depict the commercial, industrial and residential sections of some twelve thousand cities and towns in the United States. These specialized maps were prepared for the exclusive use of fire insurance companies and underwriters to provide accurate, current and detailed information about the buildings they were insuring. Sanborn maps show the size, shape and construction of dwellings, commercial buildings and factories, as well as indicate widths and names of streets, property boundaries, building use, and house and block numbers. D.A. Sanborn, a young surveyor from Somerville, Massachusetts, established the D.A. Sanborn National Insurance Diagram Bureau in New York City in 1867. With good managerial procedures and practices, Sanborn's company quickly became the premiere insurance map company, expanding coverage to all parts of the United States. In 1902, nineteen years after Sanborn passed away, the Sanborn Map and Publishing company became the Sanborn Map Company, the form which the company uses today.\In 1905, the Sanborn Map Company published a manual for the guidance of its surveyors which read, "Our maps are made for the purpose of showing at a glance the character of the fire insurance risks of all buildings. Our customers rely upon the information supplied, incurring large financial risks without making personal examinations of the properties. The information reported", the Sanborn surveyor was advised, "is technical to the fire insurance industry, and you should master the technicalities and ever bear in mind the use to which the map you are producing will be applied." Accuracy and thoroughness were factors in the success the Sanborn Map Company would experience in the coming decades. By 1920, the Sanborn Map company virtually monopolized the insurance map industry, with production probably reaching a peak in the early 1930's. Following World War II, a period of which government restrictions were enforced on the publication of maps, the market for insurance maps experienced a slow and persistent decline. Today, inspection services maintained by fire insurance rating organizations and insurance companies now prove adequate in the light of modern building construction, better fire codes and improved fire protection methods. With the chronology of Sanborn Fire Insurance Maps in mind, a clear benefit of reviewing these maps is to analyze building and property use typically previous to 1950. The existence and location of fuel storage tanks, flammable or other potentially toxic substances is clearly noted.

One (1) fire insurance map dated 1923 was found. This map shows that the subject site was occupied by a residential dwelling.

In 1950, the subject property is shown as TRUCK STORAGE YARD with TRUCK REPAIR at the rear of 1628 81st Street. See Appendix D.

# 4.0 GOVERNMENT RECORD SEARCH

## 4.1 FIRE DEPARTMENT

WEECO contacted the Los Angeles County Fire Department Health Hazardous Materials Division (HHMD) to review any records pertaining to hazardous materials used or stored at the subject site. According to the Los Angeles County Fire Department HHMD, if the address of the subject site does not appear in the lists of active or inactive Hazardous Materials facilities available to view via https://www.fire.lacounty.gov/hhmd/public-records-requests/, then the department does not have any documentation pertaining to the subject site. The subject property was not listed in any of these active or inactive facility lists. No records were found for the subject property.

## 4.2 LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

WEECO investigator contacted the Los Angeles County Department of Public Works to review any records pertaining to aboveground/underground storage tanks at the subject site. No records were found for the subject site.

## 4.3 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

WEECO investigator researched data from the South Coast AQMD Database to review any records regarding Hazardous Waste/Materials and violations for the subject property. No records were found for the subject property.

## 4.4 REGIONAL WATER QUALITY CONTROL BOARD

The subject property was not listed as a LUST (Leaking Underground Storage Tank) site on the Geotracker – California State Water Resources Control Board's sponsored website.

## 4.5 DEPARTMENT OF TOXIC SUBSTANCES CONTROL (ENVIROSTOR)

WEECO investigator contacted the Department of Toxic Substances Control, EnviroStor website to review any records pertaining to hazardous materials used or stored at the subject site and to review any records pertaining to aboveground/underground storage tanks at the subject site. No records were found for the subject property.

## 4.6 DEPARTMENT OF TOXIC SUBSTANCES CONTROL (HWTS)

WEECO investigator contacted the Department of Toxic Substances Control, Hazardous Waste Tracking System (HWTS) website to review the California and Non California Manifests Tonnage Total and Waste Code at the subject site. No records were found for the subject property.

## 4.7 OIL & GAS MAP

WEECO reviewed California Department of Conservation, Division of Oil, Gas & Geothermal Resources (DOGGR) maps for the Property and immediate vicinity via the DOGGR Online Mapping System (DOMS), but found no active or abandoned oil and/or gas wells on the Property or in the immediate vicinity.

*Source: http://www.conservation.ca.gov/dog/Pages/WellFinder.aspx*

# 5.0 FEDERAL, STATE AND REGIONAL RECORDS SEARCH

Information from standard federal, state, regional environmental record sources was provided by BBL (Environmental Data Resources). Data from governmental agency lists are updated and integrated into one database, which is updated as these data are released. The information contained in this report was compiled from publicly available sources and the locations of the sites are plotted utilizing a geographic information system, which geocodes the site addresses.

Using the ASTM definition of migration, WEECO considers the migration of hazardous substances or petroleum products in any form onto the subject property during the evaluation of each site listed on the radius report, which includes solid, liquid, and vapor.

## 5.1 FEDERAL SOURCES

| | | |
|---|---|---|
| ♦ NPL – National Priority List | no sites | within 1 mile radius |
| ♦ SEMS - Comprehensive Environmental Response, Compensation, and Liability Act | no sites | within ½ mile radius |
| ♦ NFRAP | no sites | within ½ mile radius |
| ♦ Federal Facilities | no sites | within ½ mile radius |
| ♦ **Emergency Response Notification System** | **3 sites** | **within ¼ mile radius** |
| ♦ Hazardous Material Incident Report System | no sites | subject |
| ♦ Targeted Brownfields Assessments | no sites | within ½ mile radius |
| ♦ Site Enforcement Tracking System | no sites | within ½ mile radius |
| ♦ Enforcement-Docket | no sites | within ¼ mile radius |
| ♦ C-Docket | no sites | within ¼ mile radius |
| ♦ Integrated Compliance Information System | no sites | within ½ mile radius |
| ♦ **CORRACTS** | **1 site** | **within 1 mile radius** |
| ♦ RCRA – TSD Facilities | no sites | within ½ mile radius |
| ♦ Clandestine Drug Laboratories | no sites | within ½ mile radius |
| ♦ Indian LUST/VCP/UST | no sites | within ½ mile radius |

## 5.2 CALIFORNIA STATE SOURCES

| | | |
|---|---|---|
| ♦ Federal Lead | no sites | within 1 mile radius |
| ♦ State Response Sites | no sites | within ½ mile radius |
| ♦ Voluntary Cleanup Program | no sites | within ½ mile radius |
| ♦ **Properties Needing Further Evaluation** | **1 site** | **within ½ mile radius** |
| ♦ Military Evaluation Sites | no sites | within ½ mile radius |
| ♦ Expedited Remedial Action | no sites | within ½ mile radius |
| ♦ Border Zone Properties | no sites | within ½ mile radius |
| ♦ **School Property Evaluation Program** | **1 site** | **within ¼ mile radius** |
| ♦ SMBRPD Land Use Restrictions | no sites | within ½ mile radius |
| ♦ HWMP Deed/Land Use Restrictions | no sites | within ½ mile radius |
| ♦ **Corrective Action** | **1 site** | **within ½ mile radius** |
| ♦ Historical Sites | no sites | within ½ mile radius |
| ♦ **CALSITES-No Further Action** | **6 sites** | **within ¼ mile radius** |
| ♦ CORTESE | no sites | within ½ mile radius |
| ♦ **LUST – Leaking Underground Storage Tanks** | **11 sites** | **within ½ mile radius** |
| ♦ **Solid Waste Information System** | **3 sites** | **within 1 mile radius** |
| ♦ Well Investigation Program | no sites | within 1 mile radius |
| ♦ Drinking Water Program | no sites | within ½ mile radius |

## 5.3 REGIONAL SOURCES

| | | |
|---|---|---|
| ♦ **Toxic Releases** | **2 sites** | **within ½ mile radius** |
| ♦ Land Disposal Site | no sites | within ½ mile radius |
| ♦ Toxic Pits | no sites | within 1 mile radius |
| ♦ Solid Waste Assessment Test – Regional | no sites | within 1 mile radius |

## 5.4 OPERATING PERMITS

| | | |
|---|---|---|
| ◆ **RCRA Generators** | **7 sites** | **within ¼ mile radius** |
| ◆ **SARA Title III, section (TRIS)** | **1 site** | **within ¼ mile radius** |
| ◆ Nuclear Regulatory Commission Licensees | no sites | within ¼ mile radius |
| ◆ PCB Waste Handlers Database | no sites | within ¼ mile radius |
| ◆ Permit Compliance System (PCS) | no sites | within ¼ mile radius |
| ◆ **AIRS Facility System (AFS)** | **6 sites** | **within ¼ mile radius** |
| ◆ Section Seven Tracking System | no sites | within ¼ mile radius |
| ◆ **FIFRA/TSCA tracking System** | **1 site** | **within ¼ mile radius** |
| ◆ Federal Facilities Information System (FFIS) | no sites | within ¼ mile radius |
| ◆ Chemicals in Commerce Information System | no sites | within ¼ mile radius |
| ◆ FINDS EPA Facility Index System | no sites | within ¼ mile radius |
| ◆ **Hazardous Waste Information System** | **36 sites** | **within ¼ mile radius** |
| ◆ **Underground Storage Tanks** | **6 sites** | **within ¼ mile radius** |

### ON-SITE:

The subject property was not listed as having any environmental concerns or operating permits in the list of 50 government databases reviewed in this report. See Appendix B.

### OFF-SITE:

- **Twenty-Seven (27)** environmental concerns are listed in the government databases, which are located within a ½ mile radius from the subject site. The neighborhood sites up to 1.00-mile distance have been investigated by government agencies to determine if any hazardous chemical spills occurred in the past. See Appendix B for further details.

- **NPL - National Priority List**

  EPA has prioritized sites with significant risk to human health and the environment. These sites receive remedial funding under the Comprehensive Environmental Response

Conservation and Liability Act (CERCLA).

No listings within a 1 mile radius of the subject property.

- **SEMS Comprehensive Environmental Response, Compensation, and Liability Act**

Superfund Enterprise Management System (SEMS) replaced CERCLIS in 2014. This database is used by the EPA to track activities conducted under the Comprehensive Environmental Response and Liability Act CERCLA (1980) and the amendment the Superfund Amendments and Reauthorization Act SARA (1986).

Sites to be included are identified primarily by the reporting requirements of hazardous substances Treatment, Storage and Disposal (TSD) facilities and releases larger than specific Reportable Quantities (RQ), established by EPA.
Using the National Oil and hazardous Substance Pollution Contingency Plan (National Contingency Plan) the EPA set priorities for cleanup.

The EPA rates National Contingency Plan sites according to a quantitative Hazard Ranking System (HRS) based on the potential health risk via any one or more pathways: groundwater, surface water, air, direct contact, and fire/explosion.

The EPA and state agencies seek to identify potentially responsible parties (PRP) and ultimately Responsible Parties (RP) who can be required to finance cleanup activities, either directly or through reimbursement of federal Superfund expenditures.

Any Institutional/Engineering controls issued under CERCLA are described in the status detail for each site. Sites delisted from the NPL list are included here.

No listing within ½ of a mile radius of the subject property.

- **NFRAP - No Further Remedial Action Planned sites (CERCLIS)**

As of February 1995, CERCLIS sites designated 'No Further Remedial Action Planned' NFRAP have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the site being placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

EPA has removed these NFRAP sites from CERCLIS to lift unintended barriers to the redevelopment of these properties. This policy change is part of EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens promote economic redevelopment of unproductive urban sites.

No listing within ½ of a mile radius of the subject property.

## ◆ LUST - Leaking Underground Storage Tanks – California State

The Leaking Underground Storage Tank (LUST) database is maintained by the Water Resources Control Board and their regional branches, and tracks sites contaminated by releases from underground storage tanks pursuant to Section 25295 of the Health and Safety Code.

**Eleven (11) Leaking Underground Storage Tank (LUST) Sites** were identified within a ½ mile of the subject property. However, because of the distance from the subject property, the nearby leaking site could not have adversely impacted subsurface soil and/or groundwater at the subject property. If indeed, soil and/or groundwater at the subject property have been adversely impacted, the ultimate responsible party of remediation costs will be the LUST site. See Appendix B.

1) Site: NATIONAL DISTRIBUTORS, INC.
Address: 1650 E NADEAU ST
City: HUNTINGTON PARK
Map Loc: 9 - about .1 mile NE of the subject
Status: CLSD - Case Closed

2) Site: CETL DARINKA PROPERTY
Address: 8200 COMPTON AVE
City: LOS ANGELES
Map Loc: 13 - about .1 mile W of the subject
Status: CLSD - Case Closed

3) Site: AMERICAN TARA CORPORATION
Address: 8145 BEACH ST
City: LOS ANGELES
Map Loc: 20 - about .1 mile E of the subject
Status: CLSD - Case Closed

4) Site: UNITED CHEMICAL (FORMER)
Address: 8251 COMPTON AVE, 8251-8257
City: LOS ANGELES
Map Loc: 25 - about .1 mile SW of the subject
Status: NRA -

5) Site: RICH STEEL PICKLING CO
Address: 8019 BEACH ST
City: LOS ANGELES
Map Loc: 27 - about .1 mile NE of the subject
Status: CLSD - Case Closed

6) Site: EDWARDS CONTAINER
Address: 7766 S MAIE AVE
City: LOS ANGELES
Map Loc: 40 - about .2 mile N of the subject

Status: CLSD - Case Closed

7) Site: WAYMIRE DRUM CO
Address: 7702 S MAIE AVE
City: LOS ANGELES
Map Loc: 48 - about .3 mile N of the subject
Status: OPEN -

Site: WAYMIRE DRUM CO
Address: 7702 S MAIE AVE
City: LOS ANGELES
Map Loc: 48 - about .3 mile N of the subject
Status: ASSM - Site Assessment

8) Site: WOODY'S SERVICE STATION
Address: 1601 E FIRESTONE BLVD
City: FLORENCE
Map Loc: 56 - about .3 mile S of the subject
Status: CLSD - Case Closed

9) Site: MOBIL #18-LL9 (FORMER #11-LL9)
Address: 1502 E FIRESTONE BLVD
City: WATTS
Map Loc: 57 - about .4 mile SW of the subject
Status: CLSD - Case Closed

10) Site: SHELL SERVICE STATION
Address: 1454 E FIRESTONE BLVD
City: LOS ANGELES
Map Loc: 58 - about .4 mile SW of the subject
Status: CLSD - Case Closed

11) Site: NADEEM RAZA
Address: 1358 E FIRESTONE BLVD
City: LOS ANGELES
Map Loc: 59 - about .4 mile SW of the subject
Status: CLSD - Case Closed

- **FEDFAC-Federal Facilities**

As part of the CERCLA program, federal facilities with known or suspected environmental problem, the Federal Facilities Hazardous Waste Compliance Docket is tracked separately to comply with a Federal Court Order.

- **ERNS-Emergency Response Notification System**

The ERNS is a national computer database used to store information on unauthorized releases of oil and hazardous substances. The program is a cooperative effort of the Environmental Protection Agency, the Department of Transportation Research and Special Program Administration's John Volpe National Transportation System Center and the National Response Center. There are primarily five Federal statutes that require release reporting: the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) section 103, the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304; the Clean Water Act of 1972 (CWA) section 311 (b) (3); and the Hazardous Material Transportation Act 1974 (HMTA section 1808) (b).

- **HMIRS-Hazardous Material Incident Report System**

The Hazardous Material Incident Report System (HMIRS) of the Research and Special Programs Administration (RSPA) Hazardous Material Information System was established in 1971 to fulfill the requirements of the Federal hazardous material transportation law. Part 171 of Title 49, Code of Federal Regulations (49 CFR) contains the incident reporting requirements of carriers of hazardous materials. An unintentional release of hazardous materials meeting the criteria set forth in Section 171.16, 49 CFR, must be reported on DOT Form 5800.1. The data from the reports received are subsequently entered in the HAZMAT database.

- **TBA-Targeted Brownfields Assessments**

EPA's Targeted Brownfields Assessment (TBA) program is designed to help states, tribes, and municipalities—especially those without EPA Brownfields Assessment Pilots/Grants—minimize the uncertainties of contamination often associated with brownfields. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Program to promote the cleanup and redevelopment of brownfields. EPA's TBA assistance is available through two sources: directly from EPA through EPA Regional Brownfields offices under Subtitle A of the law, and from state or tribal voluntary response program offices receiving funding under Subtitle C of the law

- **SETS-Site Enforcement Tracking System**

When Expanding Superfund Monies at a CERCLA site, EPA must conduct a search to identify parties with potential financial responsibility for Remediation of uncontrolled hazardous waste sites. EPA regional Superfund Waste Management Staff issue a notice letter to the potentially responsible party (PRP). The status field contains the EPA ID number and name of the site where the actual pollution occurred.

- **DO-Enforcement Docket System/Consent Decree Tracking System**

DOCKET tracks civil judicial cases against environmental polluters, while CDETS processes court settlements, called consent decrees.

- **CD-Criminal Docket System (C-Docket)**

The Criminal Docket System is a comprehensive automated system for tracking criminal enforcement actions. C-Docket handles data for all environmental statues and tracks enforcement actions from the initial stages of investigations through conclusion.

- **ICIS-Integrated Compliance Information System (ICIS)**

ICIS is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

- **RCRA Violators List (CORRACTS)**

The Resource Conservation and Recovery Act of 1976 provides for "cradle to grave" regulation of hazardous wastes. RCRA requires regulation of hazardous waste generators, transporters, and storage/treatment/disposal sites. Evaluation to potential violators, ranging from manifest requirements to hazardous waste discharges, is typically conducted by the US EPA. This database is also known as Corrective Action Report (CORRACTS). If enforcement is required, it is typically delegated to a state agency.

- **Resource Conservation and Recovery Information System–Treatment, Storage & Disposal (RCRA-D)**

The Environmental Protection Agency regulates the treatment, storage and disposal of hazardous material through the Resource Conservation and Recovery Act (RCRA). All hazardous waste TSD facilities are required to notify EPA of their existence by submitting the Federal Notification of Regulated Waste Activity Form (EPA Form 8700-12) or a state equivalent form as well as part A (EPA form 8700-23) and Part B of their Hazardous Waste Permit Application.

- **CDL-Clandestine Drug Laboratories**

The U.S. Department of Justice ("the Department") provides this information as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

- **INDN-Indian Reservation LUST/VCP/UST**

This database includes all environmental records from Indian Reservations such as Leaking Underground Tanks (LUST), Voluntary Cleanup Program (VCP) and Underground Storage Tanks (UST)

- **FL-State Response Sites - Federal Lead**

The Site Mitigation and Brownfields Reuse Database (SMBRD) identifies certain high priority hazardous were the U.S. EPA is the lead agency. These sites are typically proposed, on or delisted from the National Priority List.

- **SR-State Response Sites**

The Site Mitigation and Brownfields Reuse Database (SMBRD) identifies certain potential hazardous waste sites. These are confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity and deemed generally high-priority and high potential risk.
The information has been compiled into this database by the California Environmental Protection Agency, Department of Toxic Substance Control (DTSC) in accordance with Section 25359.6 of the California Health and Safety Code.

- **VCP–Voluntary Cleanup Program**

This category contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have requested that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

- **FE-Properties Needing Further Evaluation**

This category of The Site Mitigation and Brownfields Reuse Program Database (SMBRPD) contains properties that are suspected of being contaminated. These are unconfirmed contaminated properties that need to be assessed using the PEA process.

- **ME-Military Evaluation Sites**

This category the Site Mitigation and Brownfields Reuse Program Database SMBRPD, contains Formerly Used Defense Sites (FUDS) and Open or Closed military facilities with confirmed or unconfirmed releases and where DTSC is involved in investigation and/or remediation, either in a lead or support capacity. Sites with confirmed releases are generally considered high-priority and high potential risk.

- **EP-Expedited Remedial Action Program**

The Expedited Remedial Action Program is a pilot program limited to 30 sites. These are confirmed release sites worked on by Responsible Parties with oversight of the cleanup by DTSC. These confirmed sites are generally high-priority and high potential risk.

- **BZ-Border Zone Properties**

These sites went through the Hazardous Waste Property or Border Zone Property evaluation and formal determination process. (Chapter 6.5, Health and Safety Code section 25221.)

- **SCH-School Property Evaluation Program Properties**

This category of The Site Mitigation and Brownfields Reuse Program Database (SMBRPD) contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the Calsites category depending on the level of threat to public health, safety or the environment they pose.

- **LUR-Brownfields Reuse Program Facility Sites with Land Use Restrictions**

The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

- **DR-Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction**

The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

- **CA-Hazardous Waste sites - Permitted and Corrective Action**

Permitted and Corrective Action sites are RCRA-permitted facilities undergoing cleanup activities or permitted to handle Hazardous Waste.

- **HIS-Historical Site**

This category of The Site Mitigation and Brownfields Reuse Program Database (SMBRPD) contains sites from an older database where no site type was identified. Most of these sites have a status of Referred or No Further Action. DTSC is working to clean up this data by identifying an appropriate site type for each Historic site.

- **CALSITES-No Further Action**

This section includes the sites on the CALSITE list which have been flagged for no further action by the California Environmental Protection Agency, Department of Toxic Substance Control (DTSC) in accordance with Section 25359.6 of the California Health & Safety Code.

- **CORTESE-State of California Office of Planning and Research**

This database is a consolidation of information from various sources. It is maintained by the State Office of Planning and research and lists potential and confirmed hazardous waste or substances sites.

- **SWIS-Solid Waste Information System**

As legislated under the Solid Waste Management and Resource Recovery Act of 1972, the California Waste Management Board maintains lists of certain facilities, i.e. active solid waste disposal sites, inactive or closed waste disposal sites and transfer facilities.

- **WIP-Well Investigation Program**

The Well Investigation Program (AB 1803) identifies groundwater that is already contaminated and empowers the California Department of Health Services and local health officers to order ongoing monitoring programs.

- **WQ-Drinking Water Program**

The California Health and Safety Code section 116275-116300 stipulates that it is the intent of the Legislature to improve laws governing drinking water quality to improve upon the minimum requirements of the federal Safe Drinking Water Act Amendments of 1986, to establish primary drinking water standards that are at least as stringent as those established under the federal Safe Drinking Water Act, and to establish a program under this chapter that is more protective of public health than the minimum federal requirement. In order to provide for the orderly and efficient delivery of safe drinking water the State Department of Health Services collect information on the quality of public drinking water wells under the California Drinking Program.

- **NT-Toxic Releases**

The California Regional Water Quality Control Boards or local Department of Health Service keeps track of toxic releases to the environment. These lists are known as Unauthorized Releases, Spill Leaks, Investigations and Cleanups (SLIC), Non-Tank Releases, Toxics List or similar, depending on the local agency.

- **TPC-Toxic Pits**

The Toxic Pits Clean-Up Act (Katz Bill) places strict limitations on the discharge of liquid hazardous wastes into surface impoundment, toxic ponds, pits and lagoons. Regional Water Quality Control Boards are required to inspect all surface impoundment annually; in addition, every facility was required to file a Hydrogeological Assessment Report. Recent legislation allows the Department of Health Services to exempt facilities that closed on or before December 31, 1985, if a showing is made that no significant environmental risk remains (AB1046). Special exemption provisions have created for surface impoundment receives mining wastes.

- **SWAT-Solid Waste Assessment Test-Regional**

This program, provided for under the Calderon legislation (Section 13273 of the Water Code), requires that disposal sites with more than 50,000 cubic yards of waste provide sufficient information to the regional water quality control board to determine whether or not the site has been discharged hazardous substances which will impact the environment.

Site operators are required to file Solid Waste Assessment Test report on staggered basis. Operators of the 150 highest ranking (Rank 1) sites were required to submit Solid Waste Assessment Tests by July 1, 1987, Rank 2 in 1988 and so on.

Operators submit water quality tests to the Regional Water Quality Control Board, describing surface and groundwater quality and supply; and the geology within 1 mile of the site. Air quality tests are submitted to the local Air Quality Management District/Air Pollution Control District.

## 5.5 VAPOR ENCROACHMENT SCREENING

ASTM E 2600-10 Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions (VES) was used as guidance for conducting a VES for the Subject Property. The purpose of the screening is to determine whether a Vapor Encroachment Condition (VEC) exists from chemicals of concern (COC) that may migrate as vapors onto a property as a result of contaminated soil and groundwater on or near the Subject Property. This standard replaces E 2600-08 published in March of 2008.

The newly revised standard focuses solely on screening for the likelihood of migrating vapors volatilized from a contaminated source the encroach upon the subsurface of a property involved in a real estate transaction and create a vapor encroachment condition (VEC). Two tiers for screening are included in the practice. The first tier is based upon the existence of known or suspect contaminated sites in the area. The second tier is more comprehensive and investigates specific characteristics associated with the contaminated plumes from these sites, or if no plume information is available, relies on sampling. If the likelihood exists for vapors to reach the subsurface of the property, further investigation that is beyond the scope of this practice would be necessary to determine if vapor intrusion is occurring into any buildings on the property. Of particular note in the standard is the completely revised Legal Appendix that discusses the relationship between this standard and the E 1527-13 Phase I ESA standard. In simple terms, the E 1527-13 standard (which complies with AAI) includes in its REC definition the Environmental Professional's (EP's) need to consider hazardous substances and petroleum products on the target property or migrating to the target provides a methodology for the EP to accomplish this for vapors. If vapors can reach the target property (thereby creating a VEP), the EP conducting the E 1527-13 Phase I would then have to decide whether or not the VEC constitutes an REC. This would be analogous to the EP finding in the Phase I investigation the potential for a contaminated groundwater plume to reach the target property. The EP would then have to determine if this situation is a REC.

The purpose of this practice is to define good commercial and customary practice in the United States of America for determining if a vapor encroachment condition (VEC) on a property parcel involved in a real estate transaction with respect to chemicals of concern (COC) that may migrate as vapors into existing or planned structures on a property due to contaminated soil and groundwater on the property or within close proximity to the property. For the purpose of this Report, this practice is used as a voluntary supplement to Practice E 1527 and does not alter or in any way define the scope of that practice. In addition, performance of this standard is not a requirement of and does not constitute, expand, or in any way define "all appropriate inquiry" as defined or approved by U.S. EPA under CERCLA and the regulations thereunder, including 40 CFR Sec. 312.11.

In defining a standard of good commercial and customary practice for determining a VEC on a parcel of property, the goal of the process established by this practice is to identify whether or not a VEC exists or is likely to exist on the property. The term VEC means the presence or likely presence of any COC in the indoor air environment of existing or planned structures on a property caused by the release of vapor from contaminated soil or groundwater either on the property or within close proximity to the property, at a concentration that presents or may present an unacceptable health risk to occupants. The term is not intended to include de minimis conditions that do not normally represent an unacceptable health risk to occupants that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A condition determined to be de minimis does not represent a VEC.
The screening involves a two tired approach to assessing VEC risk as described below.

## VES TIER I - SEARCH DISTANCE TEST/CHEMICALS OF CONCERN TEST

The search distance test involves a review of the regulatory database report (see Section 5) and available historical records to make a determination if any *known or suspect potentially contaminated* properties exist within the Area of Concern (AOC). High risk sites are typically current and former gas stations, former and current dry cleaners, manufactured gas plants, and industrial sites. The AOC is defined as any up gradient sites within the ASTM Practice E1527-13 standard search distances and any cross or down gradient sites within 1/3 mile for solvents and petroleum products.

If the contamination at the known or potentially contaminated site within the AOC consists of COCs, then a potential Vapor Encroachment Condition (pVEC) exists and Tier II screening is recommended. If no known or potentially contaminated sites with COCs exist within the AOC, no further inquiry is necessary.

No release sites were identified in the BBL Radius Map Report (see Section 5) within the AOC that are considered to pose a pVEC at the Subject Property based on the Tier I evaluation.

**VES TIER II - PLUME TEST**

The Plume Test assesses whether or not a plume is close enough to the property to result in a VEC.

1. Critical Distance Determination - Determine distance from property to edge of plume in any direction (vertical, horizontal, lateral).

2. A VEC exists if there is a plume of VOCs, semi-volatile organic compounds (SVOCs), Volatile Inorganic Compounds (VICs), or free petroleum product have accumulated above a water table within 100 feet of the Subject Property or if a plume of dissolved volatile petroleum hydrocarbons is present within 30 feet of the property.

The sites were manually mapped to determine the location of the Subject Property and any potential plumes of contamination relative to the Subject Property and groundwater gradient. In addition, the case information for each site was reviewed.

Based on WEECO's review of the historical and current usage of the Subject Property as well as our review of the Federal, State, and Regional databases discussed in Section 5.5 for onsite and adjacent properties of potential concern for vapor encroachment, no pVEC (potential Vapor Encroachment Condition) was identified in connection with the Property, and it is WEECO's professional opinion that a VEC is not suspected of having encroached into the Subject Property.

# 6.0 USER PROVIDED INFORMATION AND INTERVIEWS

## 6.1 USER PROVIDED INFORMATION

The purpose of this section is to describe tasks to be performed by the *User*. The "All Appropriate Inquiries" Final Rule (40 CFR Part 312) requires that these tasks be performed by or on behalf of a party seeking to qualify for an *landowner liability protections (LLP)* to CERCLA liability. While such information is not required to be provided to the *environmental professional*, the *environmental professional* shall request that the *User* provide the results of these tasks as such information can assist the *environmental professional* in identifying Recognized Environmental Conditions.

In order to qualify for one of the *Landowner Liability Protections (LLPs)* 187 offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"), the *user* must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30, and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The *user* should provide the following information to the *environmental professional.* Failure to conduct these inquiries could result in a determination that "*all appropriate inquiries*" is not complete.

| User Questionnaire | |
|---|---|
| **Questions** | **User to Answer** |
| **(1) Environmental liens that are filed or recorded against the *property* (40 CFR 312.25).**<br>Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local? | **NO** |
| **(2) Activity and use limitations (AULs) that are in place on the *site* or that have been filed or recorded in registry (40 CFR 312.26).**<br>Are you aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? | **NO** |

| | |
|---|---|
| **(3) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).**<br>As the User of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? | NO |
| **(4) Relationship of the purchase price to the fair market value of the Property if it were not contaminated (40 CFR 312.29).**<br>Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? | YES, NO |
| **(5) Commonly known or reasonably ascertainable information about the Property (40 CFR 312.30).**<br>Are you aware of commonly known or reasonably ascertainable information about the Property that would help the Environmental Professional (EP) to identify conditions indicative of releases or threatened releases? For example, as User, | |
| (a) Do you know the past uses of the property? | YES |
| (b) Do you know of specific chemicals that are present or once were present at the property? | N/A |
| (c) Do you know of spills or other chemical releases that have taken place at the property? | N/A |
| (d) Do you know of any environmental cleanups that have taken place at the property? | N/A |
| **(6) The degree of obviousness of the presence of likely presence of contamination at the Property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).**<br>As the User of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the Property? | N/A |

## 6.2 INTERVIEWS

### 6.2.1 Interview with Owner (or Property Manager)

The owner of the subject property was not available to be interviewed at the time of the assessment.

### 6.2.2 Interview with Current Property Occupant

The occupant of the subject property was not available to be interviewed at the time of the assessment.

### 6.2.3 Interview with Others

As the subject property is not an abandoned property as defined in ASTM 1527-13, interview with others were not performed.

## 6.3 PREVIOUS REPORTS OR OTHER PROVIDED DOCUMENTATION

No previous reports or other pertinent documentation was provided to WEECO for review during the course of this assessment.

# 7.0 SITE RECONNAISSANCE

A site reconnaissance of the subject property was conducted on April 4, 2018. Investigator(s) in attendance for the site reconnaissance included the following:

- Hansol Yoo, Project Engineer / WEECO

The site reconnaissance consisted of a visual inspection of the subject property. The following sections discuss the findings of the site reconnaissance.

## 7.1 GENERAL SITE CHARACTERISTICS

### 7.1.1 Solid Waste Disposal

No trash-bins were observed at the subject site at the time of inspection.

### 7.1.2 Sewage Discharge and Disposal

Sanitary discharges on the subject property are directed into the municipal sanitary sewer system. The County of Los Angeles services the subject property vicinity. No wastewater treatment facilities or septic systems are observed or reported on the subject property.

### 7.1.3 Surface Water Drainage

Storm water is removed from the subject property primarily by sheet flow action across the paved surfaces towards storm water drains located in the public right of way. Site storm water from roofs, landscaped areas, and paved areas is directed to storm water drains in the public right of way. The subject property is connected to a municipal owned and maintained sewer system. The subject property does not appear to be a designated wetland area, based on information obtained from the United States Fish & Wildlife Service; however, a comprehensive wetlands survey would be required in order to formally determine actual wetlands on the subject property. No surface impoundments, wetlands, natural catch basins, settling ponds, or lagoons are located on the subject property. No drywells were identified on the subject property.

### 7.1.4 Sources of Heating and Cooling

Heating and cooling systems as well as domestic hot water equipment are fueled by electricity provided by Southern California Edison.

### 7.1.5 Wells

No aboveground evidence of wells was observed during the site reconnaissance.

### 7.1.6 Septic Systems

No septic systems were observed or reported on the subject property.

### 7.1.7 Additional Site Observation

No additional general site characteristics were observed during the site reconnaissance.

## 7.2 POTENTIAL ENVIRONMENTAL HAZARDS

### 7.2.1 Hazardous Substances and Petroleum Products Used or Stored at the Site

No hazardous substances and petroleum products was used or stored at the site.

### 7.2.2 Underground & Aboveground Hazardous Substances and Petroleum Product Storage Tanks (USTs/ASTs)

No evidence of current or former ASTs or USTs was observed during the site reconnaissance.

### 7.2.3 Evidence of Release

Minor spills, stains or other indications that a surficial release has occurred at the subject property were observed at the subject site. However, those stains could not impose a significant threat upon the environmental integrity of the subject site.

### 7.2.4 Polychlorinated Biphenyls (PCBs)

Older transformers and other electrical equipment could contain PCBs at a level that subjects them to regulation by the U.S. EPA. PCBs in electrical equipment are controlled by United States Environmental Protection Agency regulations 40 CFR, Part 761. Under the regulations, there are three categories into which electrical equipment can be classified: 1) Less than 50 parts per million (ppm) of PCBs – "*Non-PCB;*"2) 50 ppm-500 ppm – "*PCB-Contaminated;*" and, 3) Greater than 500 ppm – "*PCB-Containing.*" The manufacture, process, or distribution in commerce or use of any PCB in any manner other than in a totally enclosed manner was prohibited after January 1, 1977.

The on-site reconnaissance addressed indoor and outdoor transformers that may contain PCBs.

No PCB-containing equipment (interior/exterior transformers, oil-filled switches, hoists, lifts, dock levelers, balers, etc.) were observed on the subject property during WEECO's reconnaissance.

### 7.2.5 Drains, Sumps and Clarifiers

No drains, sumps, or clarifiers, other than those associated with storm water removal, were observed on the subject property during the site reconnaissance.

### 7.2.6 Pit, Ponds and Lagoons

No pits, ponds or lagoons were observed on the subject property.

### 7.2.7 Additional Potential Environmental Hazards

No additional environmental hazards, including landfill activities or radiological hazards, were observed.

## 7.3 NON-ASTM SERVICE

### 7.3.1 Asbestos-Containing Materials (ACMs) and Lead-Based Paint (LBP)

Since an asbestos survey and lead-based paint are not included in the current scope of services for Phase I ESA, WEECO did not test suspect asbestos-containing building materials (ACBM) and suspect lead-based paint (LBP) at the property.

Commercial use of ACM and lead-based paint as a building material was banned by the federal government in 1978. WEECO did not contract to conduct asbestos, lead-based paint inspection at the subject site. Since there are currently no buildings onsite, asbestos & lead-based paint containing materials are not likely be present on the subject site.

### 7.3.2 Radon

Radon sampling and testing was not requested by the *User/Client* as part of this Phase I ESA.

Radon is a naturally-occurring, odorless, invisible gas. Natural radon levels vary and are closely related to geologic formations. Radon may enter buildings through basement sumps or other openings.

A review of the EPA's Map of Radon Zones indicates that Los Angeles County falls within Zone 2, a zone of moderate radon potential. Counties located within Zone 2 have a predicted average indoor radon screening level between 2 and 4 picocuries per liter (pCi/L). A radon survey was not included in the current scope of services.

Source: http://www2.epa.gov/radon/find-information-about-local-radonzones-and-radon- programs#radonmap

It should be noted that site-specific radon levels vary greatly within the EPA radon zones and on-site radon measurements would need to be collected in order to determine the Property radon levels.

### 7.3.3 Lead in Drinking Water

Since a lead in drinking water survey is not included in the current scope of services for Phase I Environmental Site Assessment, WEECO did not test drinking water at the Property for lead content.

The major source of LIW is leaching of lead from household plumbing materials or water service lines used to bring water from the main to the building. Lead can leach into drinking water through contact with the plumbing, solder, fixtures and faucets (brass), and fittings. The amount of lead in drinking water will be influenced by the type and amount of minerals in the water, how long the water stays in the pipes, the amount of wear in the pipes, the water's acidity and its temperature.

# 8.0 FINDINGS AND CONCLUSIONS

## FINDINGS

A *recognized environmental condition (REC)* refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment. The following was identified during the course of this assessment:

- Based on the Sanborn Fire Insurance Map and the Historical Aerial Photomaps, the subject site used to be occupied by a truck storage yard and truck repair facility. No records of any soil sampling report regarding the previous truck repair facility were found. This means the current condition of the soil is unknown.

A *controlled recognized environmental condition (CREC)* refers to a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. The following was identified during the course of this assessment:

- WEECO did not identify any controlled recognized environmental condition during the course of this assessment.

A *historical recognized environmental condition (HREC)* refers to a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls. The following was identified during the course of this assessment:

- WEECO did not identify any historical recognized environmental conditions during the course of this assessment.

An *environmental issue* refers to environmental concerns identified by WEECO, which do not qualify as RECs; however, warrant further discussion. The following was identified during the course of this assessment:

- WEECO did not identify any environmental issues during the course of this assessment.

## CONCLUSIONS, OPINIONS AND RECOMMENDATIONS

WEECO has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of **1628-1638 E. 81st Street, 1619-1659 E. 82nd Street & 8151 S. Maie Avenue, in the City of Los Angeles, Los Angeles County, California** (the "subject property"). Any exceptions to, or deletions from, this practice are described in Section 1.5 of this report.

This assessment has revealed evidence of recognized environmental conditions (RECs) in connection with the subject property because a previous truck yard and truck repair facility was present at the site. Therefore, WEECO recommends that a Phase II Environmental Site Assessment be performed at the Property (1628-1638 E. 81st Street) in order to determine if there was any contamination due to the previous truck repair facility.

## 9.0 REFERENCES

During the preparation of this Report, a number of sources were contacted, individuals were interviewed, and various federal, state, county or local municipal agencies were consulted. Documentation applicable to the Property in those departments and agencies was requested and reviewed when and where reasonably ascertainable, as detailed in ASTM Standard Practice E1527-13. Individuals listed without phone numbers were contacted in person or by e-mail. Reference sources for site-specific information, hydrogeologic setting, technical data, historical research data, environmental reports and other records used are identified throughout this Report in corresponding sections. Any additional reference sources not cited in each applicable section of this report, if applicable, are disclosed in this section.

- ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM Designation E1527-13
- Current USGS 7.5 Minute Topographic Map
- BBL Radius Map Report
- BBL Historical Tenant Report
- BBL Historical Sanborn Fire Insurance Maps
- BBL Historical Aerial Photographs
- Historical Topographic Map Series (USGS 7.5 minute)
- DTSC EnviroStor online database: http://www.envirostor.dtsc.ca.gov/public/
- DTSC HWTS online database: http://hwts.dtsc.ca.gov/report_search.cfm?id=5
- California Department of Conservation, Division of Oil, Gas & Geothermal Resources (DOGGR)
- Los Angeles County Office of the Assessor
- California Water Resources Control Board GeoTracker online database
- Los Angeles County Fire Department
- Los Angeles County Department of Public Works
- South Coast Air Quality Management District (SCAQMD)

## **Exhibit E**

WEECO Limited Phase II Environmental Assessment Report,
dated June 22, 2018

WEECO WESTERN ENVIRONMENTAL ENGINEERS CO.

12610 Westminster Ave., Unit C
Santa Ana, CA 92706

(714) 542-2644
Fax: (714) 542-2520

**June 22, 2018**

**Mr. Michael Chang**
**Top Properties**
**304 S. Kingsley Drive**
**Los Angeles, CA 90020**

**RE: PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT**
**1628, 1632 & 1638 E. 81st Street**
**Los Angeles, CA 90001 (APNs: 6027-003-022, 023 & 024)**
**WEECO Project No.: 2018-6805**

Dear Mr. Chang:

Western Environmental Engineers Company (WEECO) has completed a Phase II Environmental Site Assessment at the former truck yard and truck repair facilities at 1628, 1632 & 1638 E. 81st Street, Los Angeles, California (the Site). The purpose of this assessment was to investigate soil quality at the Site.

WEECO appreciates the opportunity to work on this investigation project. Should you have any questions concerning the information provided herein or in the accompanying report, please contact James Yoon or Sin H. Kim at (714) 542-2644.

Respectfully,
Western Environmental Engineers Company

SIN H. KIM
C 62688
EXP 6/20

James Yoon, REPA
Project Manager

Sin Han Kim, P.E.
Principal Engineer
Registered Civil Engineer
California Registration No. C62688

Attachment – Phase II Environmental Site Assessment Report

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## 1.0 INTRODUCTION

This report presents the results of Phase II Environmental Site Assessment activities conducted by Western Environmental Engineers Company (WEECO) for former truck yard and truck repair facilities located at 1628, 1632 & 1638 E. 81st Street, Los Angeles, California (the Site) (Figure 1).

The purpose of this site investigation was to gather detailed information about the contaminants in the former truck yard and truck repair facilities of the site, and to determine the contaminants existing on site and to approximate the volume of the contaminants' plumes, if necessary. This Environmental Site Assessment report contains a brief history of the existing site characteristics, sample collection procedures, analytical results and other supporting data, as well as conclusions and recommendations.

# 2.0 SITE BACKGROUND

## 2.1 SITE DESCRIPTION

The subject property located at 1628, 1632 & 1638 E. 81st Street, in the City of Los Angeles, is legally described by the assessor's parcel numbers: 6027-003-022, 6027-003-023, and 6027-003-024. According to the Los Angeles County, Office of the Assessor, the subject site is an approximately 14,957 square foot lot, and has been developed with three (3) industrial buildings approximately 11,400 square feet in size total. The subject buildings were constructed in 1978, respectively. The subject property is currently occupied by an asphalt paved parking area. Onsite operations consists of an asphalt paved parking area and storage area.

## 2.2 SITE ENVIRONMENTAL HISTORY

### 2.2.1 Historic Operations

According to available historical sources, prior to 1952, the subject property was occupied by a truck yard and truck repair facility. From 1963 to 1972, the subject property was occupied by two (2) buildings. From 1980 to 2018, the subject property has been occupied by an asphalt paved parking lot.

### 2.2.2 Previous Investigations

WEECO performed a Phase I Environmental site Assessment in April 2018. This assessment has revealed evidence of recognized environmental condition (REC) in connection with the subject property due to the truck yard and truck repair facility that operated prior to 1952. Therefore WEECO recommends that a Phase II Environmental Site Assessment be performed at the Property in order to determine if the current asphalt-paved parking area and storage area have negatively impacted the Subject Property.

### 2.2.3 Adjacent Properties

During the Site Reconnaissance, WEECO's field assessor has visually inspected and documented the use of the adjacent properties, and findings are as follows:

NORTH

- The properties to the north of the subject property across 81st Street are used for residential purposes (Residential / 1629-1639 E. 81st Street).

EAST

- The property to the east of the subject property across Maie Avenue is used for an industrial purpose (Industrial Building / 8122 S. Maie Avenue).

SOUTH

- The property to the south of the subject property is an asphalt-paved parking area and storage area (1619-1643 E. 82nd Street)

WEST

- The property to the west of the subject property is used for residential purposes (Residential / 1624 E. 81st Street).

# 3.0 ENVIRONMENTAL SETTING

## 3.1 GEOLOGY AND HYDROGEOLOGY

Based on soil borings advanced to assess the Site, subsurface soil generally consists of sand (surface to 20 feet bgs). The color of the soil ranged from medium brown to light brown; the consistency of the soil was moist. Groundwater was not encountered during drilling activities.

The subject property lies within the Los Angeles Forebay Area, located in the northern part of the Central Basin. In general, it is a free groundwater area; however, in the course of this investigation it became evident that the Bellflower aquiclude extends into the southerly portion of the Forebay area. The aquiclude extends in this area and contains a high percentage of sand, and vertical percolation of water is apparently more rapid here than in other portions of the basin covered by it. Where the Bellflower aquiclude is missing within the Forebay area, the aquifers are in direct hydraulic continuity with the surface.

The Los Angeles Forebay Area is overlain by parts of the La Brea, Los Angeles and Montebello Plains. The known water-bearing sediments extend to a depth of 1600 feet (1440 feet below sea level) and include recent alluvium, the Lakewood formation and the San Pedro formation. Some fresh water also may be present in the Pliocene and Miocene rocks underlying these formations in this area.

Recent alluvium in the Los Angeles Forebay Area is found on the Los Angeles Plain and in the Los Angeles Narrows. It attains a maximum thickness of 160 feet, and includes the western arm of Gaspur aquifer and the parts of the Semiperched aquifer and Bellflower aquiclude lying west and south of the Los Angeles River.

The Semiperched aquifer is defined, as the area where deposit of sand and gravel overlying the Bellflower aquiclude is more than 20 feet in thickness. This semiperched aquifer is also present in the Lakewood formation just south of the Repetto Hill. Although the aquifer can be defined in well logs, water levels in wells indicate that it contains little or no water.

The groundwater depth in the vicinity of the subject property ranges from 40 to 90 feet bgs (data obtained from GeoTracker from a closed LUST site, 8200 S. Compton Avenue). The regional groundwater flow is expected to follow the topographic gradient, which is towards the south.

# 4.0 SITE ASSESSMENT ACTIVITIES

WEECO supervised the installation of six (6) soil borings (B1 through B6) on June 11, 2018. The site assessment included pre-field activities, soil sampling, soil classification, and sample analysis. The following sections describe each of these elements.

## 4.1 PRE-FIELD ACTIVITIES

Prior to initiating drilling operations, a notification was provided to the clients.

WEECO prepared a comprehensive Health and Safety Plan (HASP) for this project based on the scope of work and the potential hazards present. The HASP was the primary mechanism to ensure employee, environmental, and public safety during field activities. The HASP was implemented and enforced on-site by the WEECO Site Health and Safety Officer.

In accordance with California State Law, WEECO contacted Underground Service Alert (USA) prior to commencing drilling activities to identify any public utility alignments that may have been in potential conflict with the proposed boring locations.

## 4.2 DRILLING, SOIL AND GROUNDWATER SAMPLING PROCEDURES

### 4.2.1 Drilling Operations

On June 11, 2018, WEECO supervised the advancement of 6 soil borings (B1 through B6) at the locations illustrated on Figure 2. Drilling was conducted by Kehoe Testing & Engineering, Inc. using a GeoProbe direct push drill rig down to 20 feet below ground surface (bgs).

Six (6) soil boring locations were selected in order to define the vertical and lateral extent of the contamination plume at the subject site.

### 4.2.2 Subsurface Soil Sampling

During drill advancement at borings B1 through B6, sampling of encountered subsurface soils was performed using a standard 2-foot long by 1-inch inner-diameter, rod steel sampler, sleeved with 18-inch long acetate sampling tubes. Soil samples for B1 through B6 were collected at every ten-, and twenty-feet intervals or less using the sampler. At each sampling interval, the sampler was hydraulically driven into undisturbed soil until 24 inches of penetration was achieved. Upon advancement of the sampler to the full 24-inch length or refusal depth the sampler was extracted and brought to the surface. The sampling and drilling sequence was then repeated for the entire depth of each boring.

The sample sleeves were sealed with Teflon™ sheets, plastic caps, non-VOC tape, properly labeled, and placed in an ice-filled cooler pending delivery under Chain-of-Custody (COC) to a laboratory for potential chemical analysis. The soils in the remaining acetate tube were visually examined by WEECO field personnel who then classified the soils in accordance with the Unified Soil Classification System (USCS). A summary of the USCS classifications are presented in the boring logs included as Appendix A. The COC records and chemical analyses for the soil samples collected from the borings are presented in Appendix B, respectively.

### 4.2.3 Laboratory Testing Program

All soil samples collected during this investigation were delivered under COC to Chemtek Environmental Laboratories Inc (Chemtek) located at 13554 Larwin Circle, Santa Fe Springs, California. Chemtek is certified to perform hazardous waste testing by the State of California Environmental Laboratory Accreditation Program (ELAP), ELAP No. 1435.

All soil samples were analyzed for Total Petroleum Hydrocarbons (TPH) for carbon chains by EPA Method 8015 (m) and Volatile Organic Compounds (VOCs) by EPA Method 8260B.

### 4.2.4 Equipment Cleaning Procedures/Containment of Materials

All sampling equipment and sampling tubes were decontaminated prior to each sampling by repeated washing using a brush and Liquinox solution, a tap water rinse, and finally a deionized water rinse. The sampler and sampling tubes were either air-dried or dried with a clean towel. Clean augers were used for each boring.

## 5.0 DISCUSSION OF RESULTS

### 5.1 SITE HYDROGEOLOGIC CONDITIONS

Based on soil borings advanced to assess the Site, subsurface soil generally consists of sand (surface to 20 feet bgs). The color of the soil ranged from medium brown to light brown; the consistency of the soil was moist. Groundwater was not encountered during drilling activities.

### 5.2 ANALYTICAL RESULTS

#### 5.2.1 Soil Chemical

In accordance with the laboratory results, concentrations of all soil samples indicated ND (Not Detected) at the specified detection limits.

The results of carbon chain and Volatile Organic Compounds (VOCs) analyses are presented in Table 1.

### 5.3 SOIL SCREENING LEVELS

The laboratory analytical results were compared to the maximum soil screening levels as defined by the Los Angeles Regional Water Quality Control Board, New Information Related to the Leaking Underground Storage Tank Program Field Manual, page 4, Table 4-1 "Maximum Soil Screening Levels (mg/kg) for TPH, BTEX & MTBE above Water Aquifers, and maximum allowable levels as defined by the United States Environmental Protection Agency Region IX "Regional Screening Levels (RSLs)" November 2017.

Based on the laboratory results, all concentrations of the soil samples were much lower than the Los Angeles Regional Water Quality Control Board, Leaking Underground Storage Tank Program Field Manual, page 4, Table 4-1 "Maximum Soil Screening Levels (mg/kg) for TPH, BTEX & MTBE above Water Aquifers, and maximum allowable levels as defined by the United States Environmental Protection Agency Region IX "Regional Screening Levels (RSLs)" November 2017.

# 6.0 CONCLUSIONS AND RECOMMENDATIONS

## 6.1 Conclusions

The site assessment has led to the following conclusions, which are subject to the standard limitations discussed in Section 7.0:

- General lithologies consist of consists of sand (surface to 20 feet bgs).
- We did not encountered groundwater during our soil boring activity.
- In accordance with the laboratory results, the concentrations of all soil samples indicated ND (Not Detected) at the specified detection limits.

## 6.2 Recommendations

Based on these analytical results, WEECO concludes that further subsurface investigation is not necessary at this time based on the conditions revealed by the six (6) borings. WEECO does not recommend any further action regarding the soil contaminant concentrations based on the results of the six (6) on-site borings.

## 7.0 STANDARD LIMITATIONS

WEECO has prepared this report for the exclusive use of ***Mr. Michael Chang*** as it pertains to the former service station site, located at **1628, 1632 & 1638 E. 81st Street, Los Angeles, California.** WEECO's investigation has been performed with the degree of skill generally exercised by practicing engineers and professional civil engineer in the environmental field. WEECO makes no other warranty, either expressed or implied, concerning the conclusions and professional advice, which is contained within the body of this report. *Any use of or reliance on this report by a third party shall be at such a party's sole risk.*

Inherent in most projects performed in a heterogeneous subsurface environment, excavation or continuing assessments may reveal findings that are different than those presented herein. This facet of the environmental profession should be considered when formulating professional opinions on the limited data collected on these projects.

The information presented in this report is valid as of the date our exploration was performed. Site conditions may alter with time; consequently, the findings presented herein are subject to change.

This report has been issued with the clear understanding that it is the responsibility of the owner, or their representative, to make appropriate notifications to regulatory agencies. It is specifically not the responsibility of WEECO to conduct appropriate notifications as specified by current county and state regulations.

WEECO can offer no assurances and assumes no responsibility for site conditions or activities that were outside the scope of the inquiry requested by ***Mr. Michael Chang*** as outlined in this document. It should be understood by ***Mr. Michael Chang*** that WEECO has relied on the accuracy of documents, oral information, and other material and information provided by ***Mr. Michael Chang*** and other associated parties. It is recognized that regulatory requirements may change, including the revision of accepted action levels, which could necessitate a review of the discussion, findings, recommendations or conclusions of this report. Any subsequent modification, revision or verification of this report must be provided in writing by WEECO.

# TABLES

## TABLE 1
## Summary of Laboratory for Soil Sample Results

(unit: mg/kg)

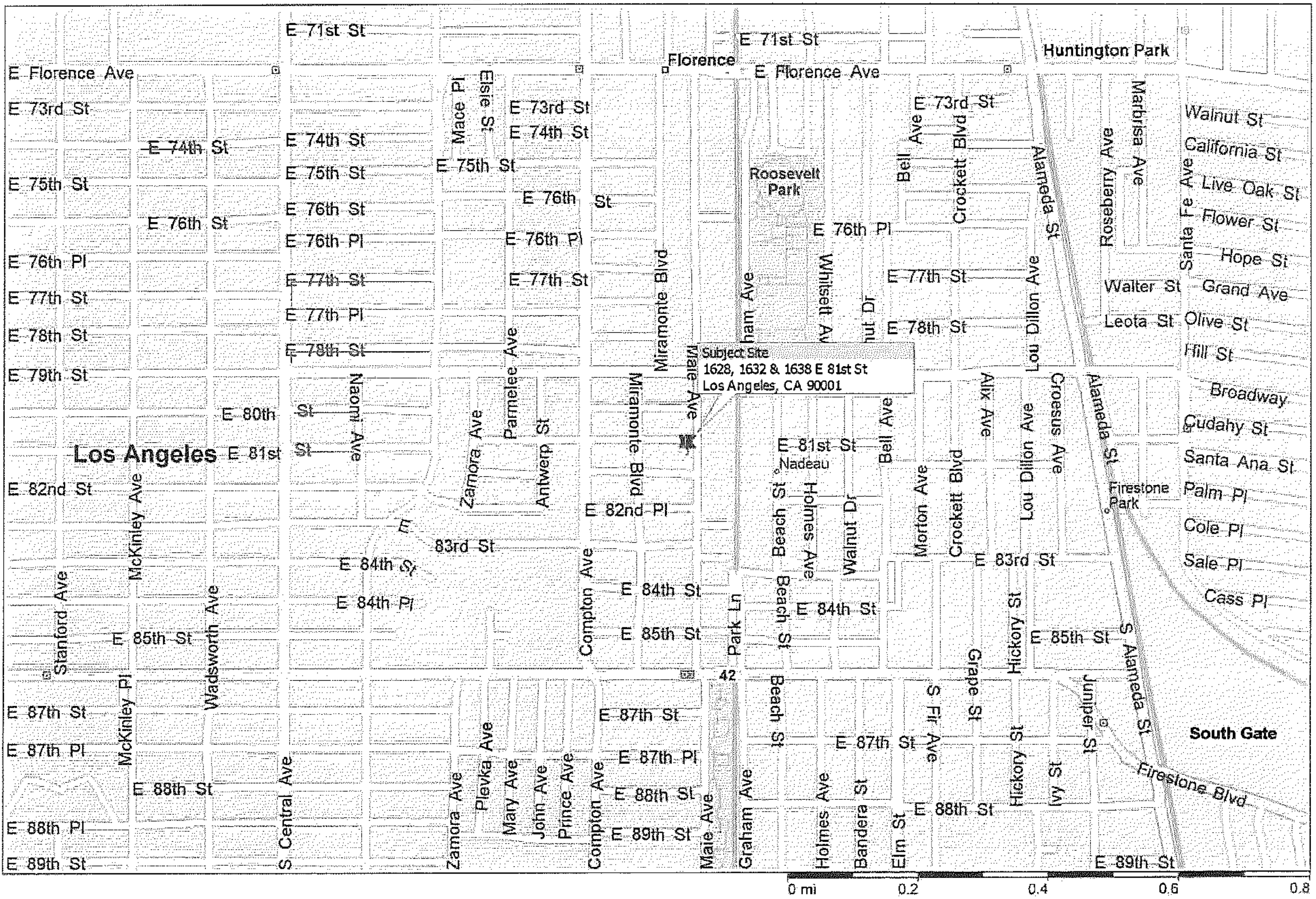
| Constituents | B1-5 | B1-10 | B2-5 | B2-10 | B3-5 | B3-10 | B4-5 | B4-10 | B5-5 | B5-10 | B6-5 | B6-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH-GRO (C4-C12) | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| TPH-DRO (C12-C22) | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| TPH-ORO (C23-36) | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Benzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Bromobenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Bromochloromethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Bromodichloromethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Bromoform | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Bromomethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| n-Butylbenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| sec-Butylbenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| tert-butylbenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Carbon Tetrachloride | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chlorobenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chloroethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chloroform | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chloromethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 2-chlorotoluene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4-chlorotoluene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 2-chloroethyl vinyl ether | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Dibromochloromethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2-Dibromo-3-chloropropane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2-Dibromoethane (EDB) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Dibromomethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2-Dichlorobenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,3-Dichlorobenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,4-Dichlorobenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Dichlorodifluoromethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,1-Dichloroethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2-Dichloroethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,1-Dichloroethene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| cis-1,2-Dichloroethene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| trans-1,2-Dichloroethene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2-Dichloropropane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,3-Dichloropropane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 2,2-Dichloropropane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,1-Dichloropropene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| cis-1,3-Dichloropropene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| trans-1,3-Dichloropropene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Hexachlorobutadiene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Isopropylbenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4-isopropyltoluene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Methylene Chloride | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Naphthalene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| n-propylbenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Styrene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,1,1,2-Tetrachloroethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,1,2,2-Tetrachloroethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Tetrachloroethene (PCE) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2,3-Trichlorobenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2,4-Trichlorobenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,1,1-Trichloroethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,1,2-Trichloroethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Trichloroethene (TCE) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Trichlorofluoromethane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2,3-Trichloropropane | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2,4-Trimethylbenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |

| Constituents | B1-5 | B1-10 | B2-5 | B2-10 | B3-5 | B3-10 | B4-5 | B4-10 | B5-5 | B5-10 | B6-5 | B6-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,3,5-Trimethylbenzene | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Vinyl Chloride | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Total Xylenes | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Ethanol | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| Methyl Tert. Butyl Ether (MTBE) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethyl tertiary butyl ether (ETBE) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Di-isopropyl ether (DIPE) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Tertiary amyl methyl ether (TAME) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Tertiary butyl alcohol (TBA) | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| 2-Butanone (MEK) | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 4-Methyl-2-pentanone (MIBK) | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 2-Hexanone | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Acetone | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |

**Note:** GRO = gasoline range organic (C4-C12) by EPA Method 8015M
DRO = diesel range organic (C13-C22) by EPA Method 8015M
ORO = heavy oil range organic (C23-C32) by EPA Method 8015M
Other VOCs analyzed by EPA Methods 8260B

# FIGURES

Figure (1) Subject Site Location Map



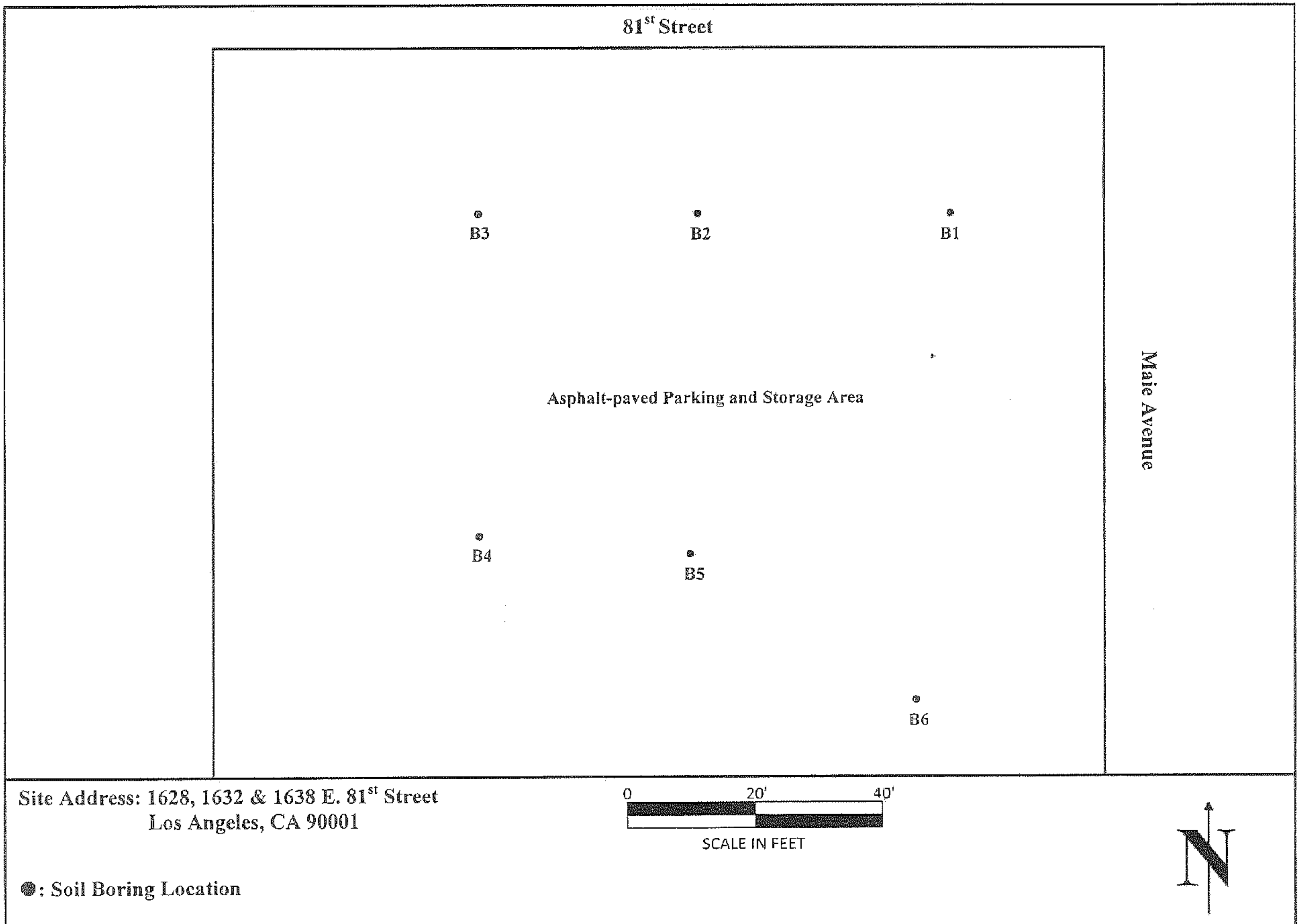


Figure 2. Soil Boring Location Plan

# APPENDIX A.

## Boring Logs

# LOG OF BORING

| | | |
|---|---|---|
| Drill Rig: 6600 Truck Mounted GeoProbe | Boring Diameter :<br>1.3/8 inches | Boring Number : B1 |

| | | | | |
|---|---|---|---|---|
| Drilling Date<br>6-11-2018 | Logger:<br>JY | Registered Civil Engineer: SK | This log is a representation of subsurface conditions at the time and place of drilling. The passage of time or other locations may cause consequential changes in conditions. | |

| BULK | TUBE | VAPOR READINGS (ppmv) | TIME | BLOW COUNTS | DEPTH, FEET | USCS | DESCRIPTION AND REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | 2" Asphalt Paving |
| | | | | | 5 | | |
| | X | | 8:43 | Direct Push | 10 | SW | 2" - 10 FT: Coarse-grained medium brown sand, moist. |
| | | | | | 15 | | |
| | X | | 8:46 | Direct Push | 20 | SW | 10 FT - 20 FT: Coarse-grained light brown sand, moist. |
| | | | | | 25 | | TD: 20 Feet<br>Backfilled with bentonite chips.<br>2" Asphalt Patching. |
| | | | | | 30 | | |
| | | | | | 35 | | |
| | | | | | 40 | | |

| | |
|---|---|
| WEECO Western Environmental Engineers Co.<br>12610 Westminster Ave. (Unit C)<br>Santa Ana, California 92706 | PROJECT NAME: Phase II Environmental Site Assessment<br>ADDRESS: 1628, 1632 & 1638 E. 81st Street<br>Los Angeles, CA 90001 |
| | Project Number: 2018-6805 \| Figure Number |

# LOG OF BORING

| | | |
|---|---|---|
| Drill Rig: 6600 Truck Mounted GeoProbe | Boring Diameter :<br>1 3/8 inches | Boring Number : B2 |

| | | | | |
|---|---|---|---|---|
| Drilling Date<br>6-11-2018 | Logger:<br>JY | Registered Civil Engineer: SK | This log is a representation of subsurface conditions at the time and place of drilling. The passage of time or other locations may cause consequential changes in conditions. | |

| BULK | TUBE | VAPOR READINGS (ppmv) | TIME | BLOW COUNTS | DEPTH, FEET | USCS | DESCRIPTION AND REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | 2" Asphalt Paving |
| | | | | | 5 | | |
| | X | | 8:57 | Direct Push | 10 | SW | 2" - 10 FT: Coarse-grained medium brown sand, moist. |
| | | | | | 15 | | |
| | X | | 9:01 | Direct Push | 20 | SW | 10 FT - 20 FT: Coarse-grained light brown sand, moist. |
| | | | | | 25 | | TD: 20 Feet<br>Backfilled with bentonite chips.<br>2" Asphalt Patching. |
| | | | | | 30 | | |
| | | | | | 35 | | |
| | | | | | 40 | | |

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Los Angeles, CA 90001

Project Number: 2018-6805 | Figure Number

# LOG OF BORING

| | | |
|---|---|---|
| Drill Rig: 6600 Truck Mounted GeoProbe | Boring Diameter : 1.3/8 inches | Boring Number : B3 |

| | | | | |
|---|---|---|---|---|
| Drilling Date<br>6-11-2018 | Logger:<br>JY | Registered Civil Engineer: SK | This log is a representation of subsurface conditions at the time and place of drilling. The passage of time or other locations may cause consequential changes in conditions. | |

| BULK | TUBE | VAPOR READINGS (ppmv) | TIME | BLOW COUNTS | DEPTH, FEET | USCS | DESCRIPTION AND REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | 2” Asphalt Paving |
| | | | | | 5 | | |
| | X | | 9:09 | Direct Push | 10 | SW | 2" - 10 FT: Coarse-grained medium brown sand, moist. |
| | | | | | 15 | | |
| | X | | 9:15 | Direct Push | 20 | SW | 10 FT - 20 FT: Coarse-grained light brown sand, moist. |
| | | | | | 25 | | TD: 20 Feet<br>Backfilled with bentonite chips.<br>2” Asphalt Patching. |
| | | | | | 30 | | |
| | | | | | 35 | | |
| | | | | | 40 | | |

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Santa Ana, California 92706

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ADDRESS: 1628, 1632 & 1638 E. 81st Street
Los Angeles, CA 90001

Project Number: 2018-6805 | Figure Number

# LOG OF BORING

| | | |
|---|---|---|
| Drill Rig: 6600 Truck Mounted GeoProbe | Boring Diameter : 1.3/8 inches | Boring Number : B4 |

| | | | | |
|---|---|---|---|---|
| Drilling Date 6-11-2018 | Logger: JY | Registered Civil Engineer: SK | This log is a representation of subsurface conditions at the time and place of drilling. The passage of time or other locations may cause consequential changes in conditions. | |

| BULK | TUBE | VAPOR READINGS (ppmv) | TIME | BLOW COUNTS | DEPTH, FEET | USCS | DESCRIPTION AND REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | 2" Asphalt Paving |
| | | | | | 5 | | |
| | X | | 9:24 | Direct Push | 10 | SW | 2" - 10 FT: Coarse-grained medium brown sand, moist. |
| | | | | | 15 | | |
| | X | | 9:31 | Direct Push | 20 | SW | 10 FT - 20 FT: Coarse-grained medium brown sand, moist. |
| | | | | | 25 | | TD: 20 Feet<br>Backfilled with bentonite chips.<br>2" Asphalt Patching. |
| | | | | | 30 | | |
| | | | | | 35 | | |
| | | | | | 40 | | |

| | |
|---|---|
| WEECO Western Environmental Engineers Co.<br>12610 Westminster Ave. (Unit C)<br>Santa Ana, California 92706 | PROJECT NAME: Phase II Environmental Site Assessment<br>ADDRESS: 1628, 1632 & 1638 E. 81st Street<br>Los Angeles, CA 90001 |
| | Project Number: 2018-6805 \| Figure Number |

# LOG OF BORING

| | | |
|---|---|---|
| Drill Rig: 6600 Truck Mounted GeoProbe | Boring Diameter : 1.3/8 inches | Boring Number : B5 |

| | | | | |
|---|---|---|---|---|
| Drilling Date 6-11-2018 | Logger: JY | Registered Civil Engineer: SK | This log is a representation of subsurface conditions at the time and place of drilling. The passage of time or other locations may cause consequential changes in conditions. | |

| BULK | TUBE | VAPOR READINGS (ppmv) | TIME | BLOW COUNTS | DEPTH, FEET | USCS | DESCRIPTION AND REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | 2” Asphalt Paving |
| | | | | | 5 | | |
| | X | | 9:40 | Direct Push | 10 | SW | 2" - 10 FT: Coarse-grained medium brown sand, moist. |
| | | | | | 15 | | |
| | X | | 9:44 | Direct Push | 20 | SW | 10 FT - 20 FT: Coarse-grained light brown sand, moist. |
| | | | | | 25 | | TD: 20 Feet<br>Backfilled with bentonite chips.<br>2” Asphalt Patching. |
| | | | | | 30 | | |
| | | | | | 35 | | |
| | | | | | 40 | | |

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Los Angeles, CA 90001

Project Number: 2018-6805
Figure Number

# LOG OF BORING

| | | |
|---|---|---|
| Drill Rig: 6600 Truck Mounted GeoProbe | Boring Diameter :<br>1.3/8 inches | Boring Number : B6 |

| | | | | |
|---|---|---|---|---|
| Drilling Date<br>6-11-2018 | Logger:<br>JY | Registered Civil Engineer: SK | This log is a representation of subsurface conditions at the time and place of drilling. The passage of time or other locations may cause consequential changes in conditions. | |

| BULK | TUBE | VAPOR READINGS (ppmv) | TIME | BLOW COUNTS | DEPTH, FEET | USCS | DESCRIPTION AND REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | 2" Asphalt Paving |
| | | | | | 5 | | |
| | X | | 9:54 | Direct Push | 10 | SW | 2" - 10 FT: Coarse-grained medium brown sand, moist. |
| | | | | | 15 | | |
| | X | | 10:00 | Direct Push | 20 | SW | 10 FT - 20 FT: Coarse-grained light brown sand, moist. |
| | | | | | 25 | | TD: 20 Feet<br>Backfilled with bentonite chips.<br>2" Asphalt Patching. |
| | | | | | 30 | | |
| | | | | | 35 | | |
| | | | | | 40 | | |

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Santa Ana, California 92706

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Project Number: 2018-6805 | Figure Number

# APPENDIX B.

## Chain of Custody Forms and Laboratory Certificates of Analysis

CHEMTEK
environmental laboratories

ELAP: 1435
LACSD: 10167

T 562.926.9848
F 562.926.8324

## Certificate of Analysis

Client: WEECO
12610 Westminster Ave
Santa Ana, CA 92706

Attention:

Project No.
Project Site: Vacant
1628-1630 E. 81st
LA, CA

Job No: 806038
Report Date: 06/15/18
Date Received: 06/11/18
Number of Samples: 12
Sample Matrix: Soil

### This is the Certificate of Analysis for the following samples:

| SAMPLE IDENTIFICATION | DATE OF SAMPLE | LABORATORY IDENTIFICATION |
|---|---|---|
| B1-10 | 06/11/18 | 806038-01A |
| B1-20 | 06/11/18 | 806038-02A |
| B2-10 | 06/11/18 | 806038-03A |
| B2-20 | 06/11/18 | 806038-04A |
| B3-10 | 06/11/18 | 806038-05A |
| B3-20 | 06/11/18 | 806038-06A |
| B4-10 | 06/11/18 | 806038-07A |
| B4-20 | 06/11/18 | 806038-08A |
| B5-10 | 06/11/18 | 806038-09A |
| B5-20 | 06/11/18 | 806038-10A |
| B6-10 | 06/11/18 | 806038-11A |
| B6-20 | 06/11/18 | 806038-12A |

Reviewed and Approved:

Michael C.C. Lu
For Laboratory Director

CHEMTEK
environmental laboratories

T 562.926.9848
F 562.926.8324

## Certificate of Analysis

**Client:** WEECO
12610 Westminster Ave
Santa Ana, CA 92706
**EPA Method:** 8260B
**Attention:**

**Project No.**
**Project Site:** Vacant
1628-1638 E. 81st
LA, CA
**Units:** ppb or µg/kg

**Job No:** 806038
**Report Date:** 06/15/18
**Date of Sample:** 06/11/18
**Date Received:** 06/11/18
**Sample Matrix:** Soil

| Client Sample ID: | B1-10 | B1-20 | B2-10 | B2-20 | B3-10 | B3-20 | B4-10 | B4-20 | B5-10 | B5-20 | Detection |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dilution Factor: | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Limit |
| | (ppb) | (ppb) | (ppb) | (ppb) | (ppb) | (ppb) | (ppb) | (ppb) | (ppb) | (ppb) | (ppb) |
| Benzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Bromobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Bromochloromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Bromoform | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Bromomethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| n-Butylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| sec-Butylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| tert-Butylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Carbon Tetrachloride | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Chlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Chloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Chloroform | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Chloromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 2-Chlorotoluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 4-Chlorotoluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 2-Chloroethyl vinyl ether | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 2 |
| Dibromochloromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,2-Dibromo-3-chloropropane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,2-Dibromoethane (EDB) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Dibromomethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,2-Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,3-Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,4-Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Dichlorodifluoromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,1-Dichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,2-Dichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,1-Dichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| cis-1,2 Dichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Trans-1,2-Dichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,2-Dichloropropane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,3-Dichloropropane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 2,2-Dichloropropane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,1-Dichloropropene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Cis-1,3-Dichloropropene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| trans-1,3-Dichloropropene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Ethylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Hexachlorobutadiene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Isopropylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 4-Isopropyltoluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Methylene Chloride | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 5 |
| Naphthalene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| n-propylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Styrene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,1,1,2-Tetrachloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,1,2,2-Tetrachloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Tetrachloroethene(PCE) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Toluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,2,3-Trichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,2,4-Trichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,1,1-Trichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,1,2-Trichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Trichloroethene(TCE) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Trichlorofluoromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,2,3-Trichloropropane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,2,4-Trimethylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| 1,3,5-Trimethylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Vinyl Chloride | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| Total Xylenes | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 2 |
| Ethanol | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 250 |
| MTBE | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| ETBE | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| DIPE | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| TAME | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| TBA | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 20 |
| MEK | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 10 |
| MIBK | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 10 |
| 2-Hexanone | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 10 |
| Analysis Date: | 6/11/18 | 6/11/18 | 6/11/18 | 6/11/18 | 6/11/18 | 6/11/18 | 6/11/18 | 6/11/18 | 6/11/18 | 6/11/18 | |

ND: Not Detected Below (DF x Detection Limit)
DF: Dilution Factor

## Certificate of Analysis

Client: WEECO
12610 Westminster Ave
Santa Ana, CA 92706

EPA Method: 8260B

Attention:

Project No.

Project Site: Vacant
1628-1638 E. 81st
LA, CA

Units: ppb or µg/kg

Job No: 806038
Report Date: 06/15/18
Date of Sample: 06/11/18
Date Received: 06/11/18
Sample Matrix: Soil

| Client Sample ID: | B6-10 | B6-20 | Detection |
|---|---|---|---|
| Dilution Factor: | 1 | 1 | Limit |
| | (ppb) | (ppb) | (ppb) |
| Benzene | ND | ND | 1 |
| Bromobenzene | ND | ND | 1 |
| Bromochloromethane | ND | ND | 1 |
| Bromoform | ND | ND | 1 |
| Bromomethane | ND | ND | 1 |
| n-Butylbenzene | ND | ND | 1 |
| sec-Butylbenzene | ND | ND | 1 |
| tert-Butylbenzene | ND | ND | 1 |
| Carbon Tetrachloride | ND | ND | 1 |
| Chlorobenzene | ND | ND | 1 |
| Chloroethane | ND | ND | 1 |
| Chloroform | ND | ND | 1 |
| Chloromethane | ND | ND | 1 |
| 2-Chlorotoluene | ND | ND | 1 |
| 4-Chlorotoluene | ND | ND | 1 |
| 2-Chloroethyl vinyl ether | ND | ND | 2 |
| Dibromochloromethane | ND | ND | 1 |
| 1,2-Dibromo-3-chloropropane | ND | ND | 1 |
| 1,2-Dibromoethane (EDB) | ND | ND | 1 |
| Dibromomethane | ND | ND | 1 |
| 1,2-Dichlorobenzene | ND | ND | 1 |
| 1,3-Dichlorobenzene | ND | ND | 1 |
| 1,4-Dichlorobenzene | ND | ND | 1 |
| Dichlorodifluoromethane | ND | ND | 1 |
| 1,1-Dichloroethane | ND | ND | 1 |
| 1,2-Dichloroethane | ND | ND | 1 |
| 1,1-Dichloroethene | ND | ND | 1 |
| cis-1,2 Dichloroethene | ND | ND | 1 |
| Trans-1,2-Dichloroethene | ND | ND | 1 |
| 1,2-Dichloropropane | ND | ND | 1 |
| 1,3-Dichloropropane | ND | ND | 1 |
| 2,2-Dichloropropane | ND | ND | 1 |
| 1,1-Dichloropropene | ND | ND | 1 |
| Cis-1,3-Dichloropropene | ND | ND | 1 |
| trans-1,3-Dichloropropene | ND | ND | 1 |
| Ethylbenzene | ND | ND | 1 |
| Hexachlorobutadiene | ND | ND | 1 |
| Isopropylbenzene | ND | ND | 1 |
| 4-Isopropyltoluene | ND | ND | 1 |
| Methylene Chloride | ND | ND | 5 |
| Naphthalene | ND | ND | 1 |
| n-propylbenzene | ND | ND | 1 |
| Styrene | ND | ND | 1 |
| 1,1,1,2-Tetrachloroethane | ND | ND | 1 |
| 1,1,2,2-Tetrachloroethane | ND | ND | 1 |
| Tetrachloroethene(PCE) | ND | ND | 1 |
| Toluene | ND | ND | 1 |
| 1,2,3-Trichlorobenzene | ND | ND | 1 |
| 1,2,4-Trichlorobenzene | ND | ND | 1 |
| 1,1,1-Trichloroethane | ND | ND | 1 |
| 1,1,2-Trichloroethane | ND | ND | 1 |
| Trichloroethene(TCE) | ND | ND | 1 |
| Trichlorofluoromethane | ND | ND | 1 |
| 1,2,3-Trichloropropane | ND | ND | 1 |
| 1,2,4-Trimethylbenzene | ND | ND | 1 |
| 1,3,5-Trimethylbenzene | ND | ND | 1 |
| Vinyl Chloride | ND | ND | 1 |
| Total Xylenes | ND | ND | 2 |
| Ethanol | ND | ND | 250 |
| MTBE | ND | ND | 1 |
| ETBE | ND | ND | 1 |
| DIPE | ND | ND | 1 |
| TAME | ND | ND | 1 |
| TBA | ND | ND | 20 |
| MEK | ND | ND | 10 |
| MIBK | ND | ND | 10 |
| 2-Hexanone | ND | ND | 10 |
| Analysis Date: | 6/11/18 | 6/11/18 | |

ND: Not Detected Below (DF x Detection Limit)
DF: Dilution Factor

## Certificate of Analysis

**Client:** WEECO
**Project Site:** Vacant
1628-1638 E. 81st
LA, CA

**EPA Method:** 8015M
**units:** mg/kg or ppm

**Job No:** 806038
**Report Date:** 06/15/18
**Date of Sample:** 06/11/18
**Date Received:** 06/11/18
**Sample Matrix:** Soil

| Sample ID | UNITS | Gas Range (C4-C12) | DF | DLR | Diesel Range (C13-C22) | DF | DLR | Oil Range (C23-36) | DF | DLR |
|---|---|---|---|---|---|---|---|---|---|---|
| B1-10 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B1-20 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B2-10 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B2-20 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B3-10 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B3-20 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B4-10 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B4-20 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B5-10 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B5-20 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B6-10 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| B6-20 | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| Method Blank | mg/kg | ND | 1 | 0.2 | ND | 1 | 5.0 | ND | 1 | 10 |
| Sample Date: |  | 06/11/18 |  |  | 06/11/18 |  |  | 06/11/18 |  |  |
| Analysis Date: |  | 05/11/18 |  |  | 06/13/18 |  |  | 06/13/18 |  |  |

ND : Not detected at or above DLR

DLR: Detection Limit for Reporting Purposes

QC Analysis Date: 06/11/18 Job No: 806038
QC Lab ID: 806038-1A
Units: ppb

QUALITY CONTROL DATA

EPA METHOD: 8260B(VOC's)

| ANALYTE | BLANK RESULT | SPIKE CONC. | MS % REC | MSD % REC | % RPD | % RPD ACCEPT LIMITS | % REC ACCEPT LIMITS |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 25 | 128.9 | 119.8 | 7.3% | 30 | 70-130 |
| Benzene | ND | 25 | 95.0 | 90.8 | 4.5% | 30 | 70-130 |
| Trichloroethylene | ND | 25 | 114.5 | 108.5 | 5.4% | 30 | 70-130 |
| Toluene | ND | 25 | 130.0 | 1123.0 | 158.5% | 30 | 70-130 |
| Chlorobenzene | ND | 25 | 113.0 | 106.3 | 6.1% | 30 | 70-130 |

QC Analysis Date: 06/11/18
QC Lab ID: 806038-1A
Units: ppm

QUALITY CONTROL DATA

EPA METHOD: 8260B (TPH Gas Range Organics )

| ANALYTE | BLANK RESULT | SPIKE CONC. | MS % REC | MSD % REC | % RPD | % RPD ACCEPT LIMITS | % REC ACCEPT LIMITS |
|---|---|---|---|---|---|---|---|
| GRO (TPH) | ND | 0.5 | 104.5 | 104.5 | 0.0% | 30 | 70-130 |

**CHEMTEK** Environmental Laboratories Inc.

13554 Larwin Circle, Santa Fe Springs, CA 90670

Tel. (562) 926-9848 FAX (562) 926-8324 Email: ChemtekLabs@hotmail.com

CA Dept of Health Accredited. (ELAP No. 1435) & Mobile Lab (ELAP No. 2629)

# CHAIN OF CUSTODY RECORD

Job No.: 806038

Page: 1 of 1

## CUSTOMER INFORMATION

COMPANY NAME: WZZCO

PROJECT CONTACT: James Yoon Email:

ADDRESS: 12610 Westminster Blvd, Santa Ana, CA

PHONE: FAX:

## PROJECT INFORMATION

PROJECT NAME: Vacant Land P.O. No.

SITE ADDRESS: 1628-1638 E. 81st St, LA, CA

SAMPLED BY: James Yoon ☐ EDF

Turn Around Time NORM ☐ 24 hr ☐ 48 hr ☐ Other ☐ Friday

## ANALYSIS REQUIRED

| | SAMPLE ID | DATE SAMPLED | TIME SAMPLED | TYPE * | pH/Time REMARKS Preserved | NO. OF CONT | 8015M TPH G or GRO | 8015M TPH D or DRO | CARBON CHAIN | VOCs (8260 B) FULL | OXYGENATES (8260 B) SHORT | COD / TSS / BOD / TDS | pH, Conductivity, Turbidity | Sulfide, Cyanide, O&G | CAM 17 Metals | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | B1-10' | 6/11/18 | 8:43 | S | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 2 | B1-20' | " | 8:46 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 3 | B2-10' | " | 8:57 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 4 | B2-20' | " | 9:01 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 5 | B3-10' | " | 9:05 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 6 | B3-20' | " | 9:15 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 7 | B4-10' | " | 9:24 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 8 | B4-20' | " | 9:31 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 9 | B5-10' | " | 9:40 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 10 | B5-20' | " | 9:48 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 11 | B6-10' | " | 9:55 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 12 | B6-20' | " | 10:07 | " | | 1 | | | ✓ | ✓ | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | |

| | SIGNATURE | PRINT NAME | COMPANY NAME | DATE | TIME |
|---|---|---|---|---|---|
| RELINQUISHED BY: | | James Yoon | WZZCO | 6/11/18 | 11:50 |
| RECEIVED BY: | | | | | |
| RELINQUISHED BY: | | | | | |
| RECEIVED FOR LABORATORY BY: | | MM | Chmt | 6/11/18 | 1150 |

NOTE: Samples are discarded 30 days after results are reported unless other arrangements are made.

Distribution : WHITE with report / YELLOW to CHEMTEK / PINK to courier

*Type: SO-Soil GW-Ground Water WW-Waste Water AQ-Aqueous A-Air OT-Other

# Supplemental Site Investigation Report

# APPENDIX F-2

HMC
HAZARD MANAGEMENT CONSULTING

# Supplemental Site Investigation Report

## 1628 E 81st Street
## Los Angeles, California

Prepared for:

**Los Angeles County Fire Department**
**Health Hazardous Materials Division**
**5825 Rickenbacker Rd**
**Commerce, CA 90040**

Prepared by:

**Hazard Management Consulting Inc.**
**211 West Avenida Cordoba**
**San Clemente California 92672**

Mark S. Cousineau, NREP
Principal

Melissa Robinson, PG
Senior Geologist

PROFESSIONAL GEOLOGIST
MELISSA V. ROBINSON
No. 9837
STATE OF CALIFORNIA

**April 1, 2022**

# CONTENTS

## TABLES

## PLATES

## APPENDICES

# 1.0 INTRODUCTION

Hazard Management Consulting, Inc. (HMC) is pleased to present this Supplemental Site Investigation Report (the Report) for the property located at 1628 E 81st Street in the City of Los Angeles, California (the Site; Plate 1). The previous site investigation conducted by ENCON Technologies, Inc. documented in the *Further Phase II Environmental Site Assessment Subsurface Soil and Soil Vapor Investigation Report* (ENCON, 2018) was reviewed by the Los Angeles County Fire Department (LACFD) as part of a CEQA review and found to have the following deficiencies:

- Lack of adequate shallow soil sampling for target chemicals of potential concern (COPCs),
- Laboratory reporting limits insufficient for detection and/or delineation of volatile organic compounds (VOCs) in soil vapor,
- Lack of soil vapor sampling at 15 feet below ground surface (bgs) in accordance with the recent draft regulatory guidance (DTSC, 2020).

HMC submitted a Workplan in February 2022 that proposed work necessary to address these data gaps, including shallow soil samples and the installation of multi-depth soil vapor probes. This Report presents the findings of the supplemental site investigation.

## 1.1 SITE DESCRIPTION

The Subject Site is an approximate 44,790 square foot, paved asphalt parking lot. The Site is in a mixed industrial and residential area in the City of Los Angeles, north of the 105 Freeway and west of the 110 (ENCON, 2018). The Site is bounded by East 82nd Street to the north, East 81st Street to the south and Maie Avenue to the east (Plate 1)

## 1.2 SITE HISTORY

Prior to 1952, the Site was occupied by a truck yard and truck repair facility located at 1628-1638 E. 81st Street. From 1963 to 1972, the Site was comprised of seven (7) buildings most likely used for textile manufacturing and distribution (ENCON, 2018). From 1980 to the present, the Site has been operated as a paved asphalt parking lot for MJ Textile located at 8122 S. Maie Avenue. These former facilities historically used hazardous materials and generated hazardous waste while operating on the Site (ENCON, 2018).

## 1.3 ENVIRONMENTAL SETTING

The Site is in the Los Angeles Forebay Area, in the northern part of the Central Basin. In general, it is a free groundwater area, however, previous investigations noted that the Bellflower aquiclude extends into the southerly portion of the forebay area. The aquiclude extends in this area and contains a high percentage of sand, and vertical percolation of water is apparently more rapid here than in other portions of the basin. Where the Bellflower aquiclude is missing within the forebay area, the aquifers are in direct hydraulic continuity with the surface (ENCON, 2018).

The Los Angeles Forebay Area is overlain by parts of the La Brea, Los Angeles, and Montebello Plains. The known water-bearing sediments extend to a depth of 1600 feet (1440 feet below sea level) and include recent alluvium, the Lakewood fo1mation and the San Pedro formation. Some water-bearing units also may be present in the Pliocene and Miocene rocks underlying these formations in this area.

Recent alluvium in the Los Angeles Forebay Area is found on the Los Angeles Plain and in the Los Angeles Narrows. It attains a maximum thickness of 160 feet and includes the western arm of Gaspur aquifer and the parts of the semi-perched aquifer and Bellflower aquiclude lying west and south of the Los Angeles River. Regional groundwater flow is expected to follow the topographic gradient, towards the south. (ENCON, 2018).

## 1.4 PRIOR INVESTIGATIONS

Prior to the 2018 Site investigation, ENCON reviewed and concurred with the findings and conclusions presented in the Phase I Environmental Site Assessment (ESA) Report prepared on April 16, 2018 (WEECO, 2018). The Phase I recommended a Phase II subsurface soil investigation for the former truck repair facility located at 1628-1638 East 81st Street be conducted to determine if the Site had been adversely affected by the previous truck repair operations. On June 11, 2018, WEECO conducted a shallow soil investigation targeting potential impacts associated with Total Petroleum Hydrocarbons in the oil range (TPHo) and VOCs. All analytical results associated with the shallow soils were found to be below detection limits (ENCON, 2018).

Upon review, ENCON concluded that the WEECO Phase II ESA Investigation was limited to the 1628-1639 East 81st Street parcel and did not include the remainder of the Site which was formerly operated as an industrial manufacturing facility. Supporting further characterization was the Site owner, KLARE Holdings, intent to redevelop the Site as a charter school campus. Therefore, a more complete soil investigation was developed, including the assessment of soil gas to ascertain the presence or absence of vapor intrusion risks for a school setting.

The Site was investigated by ENCON in accordance with the expanded site investigation and associated soil and soil gas sampling and analysis plan as presented in the ENCON Further Phase II ESA Report (2018). COPCs for this investigation included, TPHo, VOCs, polychlorinated biphenyls (PCBs), and inorganic metals. The Site investigation was completed and the results compared to then (2018) current soil screening levels (SSLs) presented in the California Environmental Protection Agency (CalEPA) Regional Water Quality Control Board (RWQCB) Tier 1 Environmental Screening Levels (ESLs) and the RWQCB Interim Site Assessment & Cleanup Guidelines, dated May 1996.

The ENCON Phase II ESA Soil and Soil Gas Subsurface Investigation revealed no evidence of chemical affected soil or soil gas in concentrations exceeding the 2018 regulatory screening levels. In addition, the soil gas results indicated that the Site was not adversely impacted by TPHo, VOC and PCB chemicals at levels exceeding the 2018 screening levels and no vapor intrusion conditions were suspected to exist beneath the Site.

Concentrations of metals found in the tested areas were all within normal background ranges for Southern California, including the slightly elevated arsenic levels, ranging from 5.28 mg/kg to 7.71 mg/kg. These arsenic concentrations are above the Tier 1 ESL levels; however, the results are below the CalEPA DTSC's Arsenic Adjusted Background Concentration of 12 mg/kg. This adjusted arsenic background concentration is based on a statistical study of sites throughout Southern California and is used as a screening level for both anthropogenic and naturally occurring levels of arsenic in soil in Southern California.

It was the professional opinion of ENCON that the Subject Site was suitable for the intended charter school use with no environmental limitations/restrictions and no further investigations was necessary at that time.

Since completion of the above investigation activities, regulatory guidance for RWQCB ESLs and vapor intrusion assessment have been modified and updated. These new guidance documents have contributed to the data gaps identified by the LACFD during their review, including the lack of adequate shallow soil sampling for target chemicals of potential concern (COPCs), laboratory reporting limits insufficient for detection and/or delineation of volatile organic compounds (VOCs) in soil vapor, and the lack of soil vapor sampling at 15 feet below ground surface (bgs) in accordance with the recent draft regulatory guidance (DTSC, 2020).

The following sections outline the scope of work proposed to address these data gaps.

# 2.0 SCOPE OF WORK

HMC developed this scope of work to address the data gaps in previous investigation activities in order to move forward with redevelopment of the Site. All work will be conducted under the direction and supervision of a California Registered Professional Engineer. The following summarizes the sampling objectives and procedures.

## 2.1 PRE-FIELD ACTIVITIES

A Health and Safety Plan (HASP) was prepared that governed the field work at the Site and is included in Appendix A. All applicable federal, state, and local regulations and codes relating to health and safety were be adhered to by HMC and subcontractors used in the project. The HASP adheres to all sections of California Occupational Health and Safety Administration (Cal OSHA) regulations contained in Title 8 of the California Code of Regulations (8 CCR) as they apply to the completed field activities. Applicable requirements included but were not limited to the following:

- Injury and Illness Prevention Program (8 CCR 1509 and 8 CCR 3203)
- Hazardous Waste Operations and Emergency Response (8 CCR 5192)
- Hazard Communication (8 CCR 5194)
- Personal Protective Equipment (8 CCR Article 10)
- Respiratory Protective Equipment (8 CCR 5144)
- Control of Noise Exposure (8 CCR 5095-5100)
- Fire Prevention and Suppression Procedures (8 CCR 4848)
- Portable Fire Extinguishers (8 CCR 6151)
- Medical Services and First Aid (8 CCR 3400).

Prior to drilling activities, HMC conducted a thorough site walk and marked out each sample location to evaluate access and possible impediments to field operations. Underground Service Alert (USA) was notified to confirm possible underground utilities that might conflict with the proposed locations marked. Additionally, COVID-19 job safety analysis and corresponding safety procedures in accordance with current local and federal guidelines were included to minimize potential worker exposures during the implementation of the investigation.

## 2.2 SOIL SAMPLING

To address the LACFD's request for a more thorough assessment of soils at the Site, a total of 10 soil borings were advanced across the Site. The locations of the soil borings completed by HMC are illustrated on Plate 2. All borings were advanced to a target depth of 15 feet bgs. During soil boring advancement, soil samples were collected using a slide hammer sampler at target depths of 2.5, 5, 10, and 15 feet bgs. Soils were logged continuously in accordance with the Unified Soils Classification System (USCS) under the direction of a California Registered Professional Geologist (PG). Additionally, soil was screened with a photoionization detector (PID) and observed for evidence of visual impacts. Field notes from the investigation are provided in Appendix B.

For all samples collected for analysis other than VOCs, the sample sleeve was removed and capped at both ends with Teflon sheets and plastic caps. All soil samples targeting VOCs were collected using United States Environmental Protection Agency (USEPA) Method 5035 and Encore samplers. Encore samplers allow for soil matrix collection of undisturbed soil to best capture VOCs within the pore space. Following retrieval of the soil sample, three 5-gram Encore samplers were pushed into soil inside the acetate sleeve using a T-handle tool and capped. Once both the capped-sleeves and Encore samples were collected, all samples were labeled, entered onto a chain-of-custody form, and placed into a laboratory-supplied ice chest for transport to the selected contract laboratory. Following the completion of individual borings, the boring equipment was decontaminated.

Based on historical investigation findings, the 2.5 and 10 feet bgs soil samples were first analyzed for VOCs and oxygenates using USEPA Test Method 8260B, TPH carbon chain analysis using USEPA Test Method 8015B (modified [M]), and Title 22 metals using USEPA Test Method 6010b/7471A. In the event concentrations within those samples exceeded RWQCB ESL Tier 1 criteria, the corresponding 5 and 15 feet bgs soil samples were also analyzed for the boring location.

## 2.3 SOIL VAPOR SAMPLING

To identify soil vapor impacts, if any, at the Site, 10 dual-nested (5 and 15 feet bgs) soil vapor probes were installed. Plate 2 shows the soil vapor probes locations at the Site. The soil vapor probes were installed using a direct push drill rig. The dual-nested soil vapor probe construction diagram is shown on Plate 3. After the installation of the soil vapor probes, the probes were allowed to equilibrate no less than 48 hours prior to sampling in accordance with the DTSC Active Soil Gas Investigations Advisory guidance document, dated July 2015 (DTSC, 2015). Soil vapor samples were collected and analyzed for VOCs using USEPA Test Method TO-15.

## 2.4 EQUIPMENT DECONTAMINATION

The non-disposable sampling equipment (i.e., hand auger, etc.) was decontaminated prior to use at each location. The decontamination chain consisted of a four-bucket chain that included a non-phosphate detergent washing station (i.e., Liquinox, Alconox, etc.), initial tap water rinse station, final deionized water rinse station, and an air-drying station.

## 2.5 INVESTIGATIVE DERIVED WASTE

The investigative derived waste (IDW), including soil cuttings from the hand-auger activities, was labelled "on hold pending laboratory analysis" and contained in 55-gallon drums for offsite transportation and disposal. Representative samples were collected and analyzed for VOCs and oxygenates using USEPA Test Method 8260B, TPH carbon chain analysis using USEPA Test Method 8015B, and Title 22 metals using USEPA Test Method 6010b/7471A. The results of these analysis will be used for IDW profiling and disposal.

# 3.0 RESULTS

The following sections provide a summary of the analytical results, interpretation of the results, and a comparison to applicable state and federal screening values.

## 3.1 SOIL RESULTS

A summary of soil analytical results is provided in Tables 1 through 3. Table 1 summarizes the VOCs detected in soil at the Site. Two compounds, acetone and benzene were detected in soil at concentrations below their respective residential RWQCB ESLs. Table 2 summarizes the TPH detected in soil at the Site. One sample (SB-5-10) contained a detection of diesel range TPH at a concentration below its residential RWQCB ESL. Table 3 summarizes the Title 22 metals detected in soil at the Site. One sample (SB-6-2.5) contained a detection of lead above both its residential and commercial RWQCB ESLs.

The reported lead concentration at sample SB-6-2.5 exceeded the total threshold limit value (TTLV) for characterization as Resource Conservation and Recovery Act (RCRA) hazardous waste. To determine the solubility of the lead impacted soils and whether the materials would further need to be managed as California hazardous waste during future excavation activities, sample SB-6-2.5 was additionally analyzed for its Soluble Threshold Limit Concentration (STLC). The resultant STLC for the sample exceeded the California hazardous waste threshold. As an exceedance, it is recommended that the lead-impacted soil at SB-6-2.5 be excavated and removed from the Site prior to grading and managed as a State hazardous waste.

To further delineate potential lead-impacted soils around sample SB-6-2.5, eight additional step-out borings (Plate 2) were completed to determine the lateral extent of the lead exceedances. Step-out borings were installed at distances of 5- and 10-foot from the original boring and soil samples were collected at 2.5 and 5 feet bgs to be analyzed for Title 22 metals using USEPA Test Method 6010. One sample (SB6-SO-7-5) contained a detection of lead above its residential RWQCB ESL, but no soluble lead was detected when analyzed for STLC (Table 3). In accordance with the planned use of the Site, it is recommended that the soil at this location also be excavated and removed from the Site prior to grading, as non-hazardous waste.

Complete soil analytical results are attached in Appendix C.

## 3.2 SOIL VAPOR RESULTS

A summary of soil vapor analytical results is provided in Table 4. Eighteen VOCs were detected in soil vapor at the Site. Sixteen of these compounds were below their associated screening levels. Two compounds, chloroform and tetrachloroethene (PCE), were detected at concentrations slightly above their associated residential screening levels.

Chloroform was detected in one of the 5-foot soil vapor probes (SV2-5) at a concentration of 0.0051 µg/L, which is slightly higher than the residential screening level of 0.0041 µg/L. The concentration was well below the commercial screening level of 0.018 µg/L. Chloroform was not detected in any of the other probes at the Site or the 15-foot probe at that location. No chloroform source was found to be present in soils or soil vapor. The significance of this soil vapor point will be determined during future grading activities via a Soils Management Plan (SMP) and any identified source of VOCs will be addressed in accordance with South Coast Air Quality Management District (SCAQMD) requirements.

PCE was detected in all soil vapor probes at the Site, but no 5-foot probes were shown to have exceedances of either residential or commercial industrial screening levels (Table 4). Minor exceedances of the residential screening level of 0.015 µg/L were identified at five probes within the 15-foot deep probe sample set. These concentrations were slightly higher than the residential screening level and ranged from 0.017 to 0.026 µg/L. All concentrations were well below the commercial screening level of 0.067 µg/L. All of these locations were co-located with PCE concentrations in 5-foot probes below the residential screening levels.

Complete soil vapor analytical results are attached in Appendix C.

# 4.0 CONCLUSIONS AND RECOMMENDATIONS

The previous site investigation conducted by ENCON Technologies, Inc. documented in the *Further Phase II Environmental Site Assessment Subsurface Soil and Soil Vapor Investigation Report* (ENCON, 2018) was reviewed by the Los Angeles County Fire Department (LACFD) as part of a CEQA review and found to have the following deficiencies:

- Lack of adequate shallow soil sampling for target COPCs,
- Laboratory reporting limits insufficient for detection and/or delineation of VOCs in soil vapor,
- Lack of soil vapor sampling at 15 feet bgs in accordance with the recent draft regulatory guidance (DTSC, 2020).

HMC submitted a Workplan in February 2022 that proposed work necessary to address these data gaps, including shallow soil samples and the installation of multi-depth soil vapor probes. The data that was obtained as part of this investigation can be summarized as follows:

- Shallow soil sampling did not find VOCs or TPH to be present in shallow soils at levels exceeding residential RWQCB ESLs.
- A single inorganic metal, lead, was found to be present in shallow soils at SB-6-2.5 and in step-out sample SB6-SO-7-5 at concentrations that exceed the residential RWQCB ESL.
- The TTLC and solubility of lead-impacted soils at SB-6-2.5 will require the soils at this location to be excavated and managed as California hazardous waste prior to Site grading.
- Eighteen VOCs were reported in soil vapors across the Site, with only two constituents (chloroform and PCE) detected in soil vapor at concentrations that slightly exceeded screening levels.
- Chloroform was present at a concentration exceeding the residential RWQCB ESL in one 5-foot soil vapor sample (SV2-5) and was not detected in any other sample, including the 15-foot soil vapor probe at the same location.
- PCE was present at concentrations exceeding the residential RWQCB ESL in five of the 15-foot soil vapor probes. The paired 5-foot soil vapor probes contained concentrations below the residential RWQCB ESL.

Based on the conclusions of this report, the following recommendations are offered for your consideration:

- Grading and development of the Site should proceed under an approved SMP after notification is given to LACFD.
- The areas with elevated concentrations of lead should be removed and disposed of off-site in advance of grading proceeding at the Site. During grading, we would recommend that a field XRF unit be used to monitor the potential for additional locations to contain lead that may be encountered. If elevated concentrations of lead are encountered, that soil should be segregated and analyzed to assess whether that soil can be used as fill or must be removed from the Site.
- As part of the grading efforts, AQMD Rule 1466 (Metals) should be followed.

- Soil vapor concentrations do not require active vapor intrusion mitigation, given the trend of vertical attenuation between the 15-foot and the 5-foot soil vapor probes. As part of the grading efforts, AQMD Rule 1166 (VOCs) should be followed and any potential unknown VOC sources in soil should be segregated and analyzed to assess whether that soil can be used as fill or must be removed from the Site.

# 5.0 REFERENCES

ENCON, 2018 ENCON Technologies, Inc. (ENCON), 2018 Further Phase II Environmental Site Assessment Subsurface Soil and Soil Gas Investigation Report, Former Industrial Facility, 1628-1638 E 81st Street, Los Angeles, California, October 5.

DTSC, 2015 Department of Toxic Substance Control (DTSC), 2015, Advisory Active Soil Gas Investigations: Guidance Document, dated July.

DTSC, 2020a DTSC, 2020, Supplemental Guidance: Screening and Evaluating Vapor Intrusion, dated February.

RWQCB, 2019 San Francisco Regional Water Quality Control Board (SFRWQCB), 2019, Environmental Screening Levels, dated January 24.

# *TABLES*

# Table 1
# Summary of Soil Analytical Results - Volatile Organic Compounds
# 1628 E 81st Street, Los Angeles, California

| | | USEPA Test Method 8260B<br>Results in µg/kg | |
|---|---|---|---|
| **Sample ID** | **Date Collected** | **Benzene** | **Acetone** |
| SFRWQCB ESLs Soil Screening Level[1] (Residential) | | 330 | 61,000,000 |
| SFRWQCB ESLs Soil Screening Level[1] (Commercial/Industrial) | | 1,400 | 670,000,000 |
| SB-1-2.5 | 02/28/22 | ND<2.5 | ND<2.5 |
| SB-1-10 | 02/28/22 | **2.7** | **9.9** |
| SB-2-2.5 | 02/28/22 | ND<2.5 | **13** |
| SB-2-10 | 02/28/22 | **2.7** | **6.4** |
| SB-3-2.5 | 02/28/22 | ND<2.5 | ND<2.5 |
| SB-3-10 | 02/28/22 | ND<2.2 | **3.3** |
| SB-4-2.5 | 02/28/22 | **2.5** | **14** |
| SB-4-10 | 02/28/22 | **4.8** | **14** |
| SB-5-2.5 | 02/28/22 | **2.3** | **14** |
| SB-5-10 | 02/28/22 | ND<2.5 | **9.3** |
| SB-6-2.5 | 02/28/22 | **5.2** | **30** |
| SB-6-10 | 02/28/22 | ND<2.2 | **6.2** |
| SB-7-2.5 | 02/28/22 | **4.0** | **15** |
| SB-7-10 | 02/28/22 | **3.2** | **6.0** |
| SB-8-2.5 | 02/28/22 | ND<2.5 | **9.2** |
| SB-8-10 | 02/28/22 | ND<2.2 | **4.4** |
| SB-9-2.5 | 02/28/22 | ND<2.0 | **13** |
| SB-9-10 | 02/28/22 | **3.0** | **8.1** |
| SB-10-2.5 | 02/28/22 | ND<2.5 | **9.8** |
| SB-10-10 | 02/28/22 | **2.0** | **6.7** |

**Notes:**

This table is a summary of analytical results and only shows detected analytes. For a complete list of analytes, refer to the laboratory analytical report.

1. Screening Levels for Residential and Commercial/Industrial Soil from San Francisco Regional Water Quality Control Board (SFRWQCB) Summary of Soil Environmental Screening Levels (ESLs); January 2019

ND<2.5 = Not detected at or above the associated reporting limit

µg/kg = micrograms per kilogram

Detections shown in **BOLD**

USEPA = United States Environmental Protection Agency

# Table 2
# Summary of Soil Analytical Results - Total Petroleum Hydrocarbons
# 1628 E 81st Street, Los Angeles, California

| | | **United States Environmental Protection Agency (USEPA) Test Method 8015B Results in milligrams per kilogram (mg/kg)** | | |
|---|---|---|---|---|
| **Sample ID** | **Date Collected** | **TPH GRO (C6-C12)** | **TPH DRO (C13-C28)** | **TPH MO (C29-C44 )** |
| SFRWQCB ESLs Soil Screening Level (Residential) | | 430 | 260 | 12,000 |
| SFRWQCB ESLs Soil Screening Level (Commercial/Industrial) | | 2,000 | 1,200 | 180,000 |
| SB-1-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-1-10 | 02/28/22 | ND<0.25 | ND<10 D-06 | ND<10 |
| SB-2-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-2-10 | 02/28/22 | ND<0.21 | ND<10 D-06 | ND<10 |
| SB-3-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-3-10 | 02/28/22 | ND<0.22 | ND<10 D-06 | ND<10 D-06 |
| SB-4-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-4-10 | 02/28/22 | ND<0.22 | ND<10 D-06 | ND<10 |
| SB-5-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-5-10 | 02/28/22 | ND<0.19 | **15 D-06** | ND<10 D-06 |
| SB-6-2.5 | 02/28/22 | ND<0.22 | ND<10 | ND<10 |
| SB-6-10 | 02/28/22 | ND<0.25 | ND<10 D-06 | ND<10 |
| SB-7-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-7-10 | 02/28/22 | ND<0.20 | ND<10 D-06 | ND<10 |
| SB-8-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-8-10 | 02/28/22 | ND<0.21 | ND<10 D-06 | ND<10 |
| SB-9-2.5 | 02/28/22 | ND<0.21 | ND<10 | ND<10 |
| SB-9-10 | 02/28/22 | ND<0.25 | ND<10 D-06 | ND<10 |
| SB-10-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-10-10 | 02/28/22 | ND<0.25 | ND<10 D-06 | ND<10 D-06 |

**Notes:**

Screening Levels for Residential and Commercial/Industrial Soil from San Francisco Regional Water Quality Control Board (SFRWQCB) Summary of Soil Environmental Screening Levels (ESLs); January 2019

Detections shown in **BOLD**

ND<10 = Not detected at or above the associated reporting limit

D-06 = The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

TPH GRO = Total petroleum hydrocarbons quantified as gasoline

TPH DRO = Total petroleum hydrocarbons quantified as diesel

TPH MO = Total petroleum hydrocarbons quantified as motor oil

# Table 3
## Summary of Soil Analytical Results - Metals
## 1628 E 81st Street, Los Angeles, California

| | | United States Environmental Protection Agency (USEPA) Test Method 6010B | | | | | | | | | | | | | | | | | USEPA Test Method 7471A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Results in milligram per kilogram (mg/kg) | | | | | | | | | | | | | | | | | |
| **Sample ID** | **Date Collected** | **Antimony** | **Arsenic** | **Barium** | **Beryllium** | **Cadmium** | **Chromium** | **Cobalt** | **Copper** | **Lead** | **Lead STLC (mg/L)** | **Molybdenum** | **Nickel** | **Selenium** | **Silver** | **Thallium** | **Vanadium** | **Zinc** | **Mercury** |
| SFRWQCB ESLs Soil Screening Level (Residential) | | 11 | 0.067 | 15,000 | 1,600 | 910 | -- | 420 | 3,100 | 82 | _ | 390 | 15,000 | 390 | 390 | 0.78 | 390 | 23,000 | 13 |
| SFRWQCB ESLs Soil Screening Level (Commercial/Industrial) | | 160 | 0.31 | 220,000 | 6,900 | 4,000 | -- | 1,900 | 47,000 | 380 | _ | 5,800 | 64,000 | 5,800 | 5,800 | 12 | 5,800 | 350,000 | 190 |
| Recommended STLC & TCLP analysis for Metals | | **150** | **50** | **1,000** | **7.5** | **10** | **50** | **800** | **250** | **50** | **5** | **3,500** | **200** | **10** | **50** | **70** | **240** | **2,500** | **2.0** |
| SB-1-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **80** | ND<1.0 | ND<2.0 | **9.7** | **7.8** | **10** | ND<3.0 | - | ND<5.0 | **6.9** | ND<5.0 | ND<2.0 | ND<5.0 | **27** | **37** | ND<0.10 |
| SB-1-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **100** | ND<1.0 | ND<2.0 | **13** | **8.9** | **14** | ND<3.0 | - | ND<5.0 | **9.0** | ND<5.0 | ND<2.0 | ND<5.0 | **33** | **45** | ND<0.10 |
| SB-2-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **74** | ND<1.0 | ND<2.0 | **9.4** | **7.2** | **10** | ND<3.0 | - | ND<5.0 | **6.6** | ND<5.0 | ND<2.0 | ND<5.0 | **26** | **37** | ND<0.10 |
| SB-2-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **120** | ND<1.0 | ND<2.0 | **13** | **9.0** | **14** | ND<3.0 | - | ND<5.0 | **9.5** | ND<5.0 | ND<2.0 | ND<5.0 | **35** | **45** | ND<0.10 |
| SB-3-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **48** | ND<1.0 | ND<2.0 | **6.2** | **5.3** | **4.8** | ND<3.0 | - | ND<5.0 | **4.1** | ND<5.0 | ND<2.0 | ND<5.0 | **21** | **25** | ND<0.10 |
| SB-3-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **83** | ND<1.0 | ND<2.0 | **10** | **7.7** | **9.5** | ND<3.0 | - | ND<5.0 | **6.9** | ND<5.0 | ND<2.0 | ND<5.0 | **28** | **38** | ND<0.10 |
| SB-4-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **93** | ND<1.0 | ND<2.0 | **13** | **9.3** | **13** | ND<3.0 | - | ND<5.0 | **8.8** | ND<5.0 | ND<2.0 | ND<5.0 | **33** | **46** | ND<0.10 |
| SB-4-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **110** | ND<1.0 | ND<2.0 | **13** | **9.5** | **15** | ND<3.0 | - | ND<5.0 | **9.6** | ND<5.0 | ND<2.0 | ND<5.0 | **34** | **48** | ND<0.10 |
| SB-5-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **74** | ND<1.0 | ND<2.0 | **9.0** | **6.8** | **9.4** | ND<3.0 | - | ND<5.0 | **6.4** | ND<5.0 | ND<2.0 | ND<5.0 | **26** | **34** | ND<0.10 |
| SB-5-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **110** | ND<1.0 | ND<2.0 | **12** | **8.3** | **14** | ND<3.0 | - | ND<5.0 | **8.6** | ND<5.0 | ND<2.0 | ND<5.0 | **32** | **41** | ND<0.10 |
| SB-6-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **63** | ND<1.0 | ND<2.0 | **8.0** | **9.5** | **45** | **1300** | **85** | ND<5.0 | **11** | ND<5.0 | ND<2.0 | ND<5.0 | **21** | **48** | ND<0.10 |
| SB-6-5 | 2/28/2022 | ND<3.0 | ND<5.0 | **74** | ND<1.0 | ND<2.0 | **8.9** | **6.8** | **9.8** | ND<3.0 | - | ND<5.0 | **6.8** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **31** | ND<0.10 |
| SB-6-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **92** | ND<1.0 | ND<2.0 | **11** | **8.4** | **13** | ND<3.0 | - | ND<5.0 | **8.3** | ND<5.0 | ND<2.0 | ND<5.0 | **30** | **40** | ND<0.10 |
| SB-7-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **91** | ND<1.0 | ND<2.0 | **11** | **8.6** | **13** | ND<3.0 | - | ND<5.0 | **7.8** | ND<5.0 | ND<2.0 | ND<5.0 | **30** | **42** | ND<0.10 |
| SB-7-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **120** | ND<1.0 | ND<2.0 | **14** | **11** | **17** | ND<3.0 | - | ND<5.0 | **11** | ND<5.0 | ND<2.0 | ND<5.0 | **40** | **46** | ND<0.10 |
| SB-8-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **54** | ND<1.0 | ND<2.0 | **7.2** | **5.6** | **7.3** | ND<3.0 | - | ND<5.0 | **5.0** | ND<5.0 | ND<2.0 | ND<5.0 | **22** | **27** | ND<0.10 |
| SB-8-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **110** | ND<1.0 | ND<2.0 | **11** | **9.1** | **12** | ND<3.0 | - | ND<5.0 | **8.0** | ND<5.0 | ND<2.0 | ND<5.0 | **31** | **38** | ND<0.10 |
| SB-9-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **84** | ND<1.0 | ND<2.0 | **11** | **8.2** | **13** | **3.8** | - | ND<5.0 | **8.0** | ND<5.0 | ND<2.0 | ND<5.0 | **30** | **41** | ND<0.10 |
| SB-9-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **91** | ND<1.0 | ND<2.0 | **11** | **7.8** | **13** | ND<3.0 | - | ND<5.0 | **7.5** | ND<5.0 | ND<2.0 | ND<5.0 | **29** | **37** | ND<0.10 |
| SB-10-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **75** | ND<1.0 | ND<2.0 | **9.2** | **7.2** | **8.5** | ND<3.0 | - | ND<5.0 | **6.2** | ND<5.0 | ND<2.0 | ND<5.0 | **26** | **35** | **0.13** |
| SB-10-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **91** | ND<1.0 | ND<2.0 | **15** | **11** | **20** | **4.0** | - | ND<5.0 | **12** | ND<5.0 | ND<2.0 | ND<5.0 | **38** | **48** | ND<0.10 |
| **Step Out Soil Samples** | | | | | | | | | | | | | | | | | | | |
| SB6-SO-1-2 | 03/18/22 | ND<3.0 | ND<5.0 | **78** | ND<1.0 | ND<2.0 | **9.1** | **6.6** | **11** | **7.9** | - | ND<5.0 | **6.6** | ND<5.0 | ND<2.0 | ND<5.0 | **22** | **42** | **0.14** |
| SB6-SO-2-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **87** | ND<1.0 | ND<2.0 | **9.9** | **7.4** | **13** | **3.1** | - | ND<5.0 | **7.2** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **39** | ND<0.10 |
| SB6-SO-2-5 | 03/18/22 | ND<3.0 | ND<5.0 | **75** | ND<1.0 | ND<2.0 | **8.8** | **6.3** | **9.9** | ND<3.0 | - | ND<5.0 | **6.9** | ND<5.0 | ND<2.0 | ND<5.0 | **22** | **32** | ND<0.10 |
| SB6-SO-3-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **76** | ND<1.0 | ND<2.0 | **9.8** | **7.2** | **10** | ND<3.0 | - | ND<5.0 | **7.1** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **36** | ND<0.10 |
| SB6-SO-3-5 | 03/18/22 | ND<3.0 | ND<5.0 | **70** | ND<1.0 | ND<2.0 | **8.9** | **6.1** | **9.6** | **6.0** | - | ND<5.0 | **6.5** | ND<5.0 | ND<2.0 | ND<5.0 | **21** | **33** | ND<0.10 |
| SB6-SO-4-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **75** | ND<1.0 | ND<2.0 | **9.9** | **7.1** | **11** | **3.2** | - | ND<5.0 | **7.0** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **35** | ND<0.10 |
| SB6-SO-4-5 | 03/18/22 | ND<3.0 | ND<5.0 | **80** | ND<1.0 | ND<2.0 | **9.3** | **7.4** | **11** | ND<3.0 | - | ND<5.0 | **7.6** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **36** | ND<0.10 |
| SB6-SO-5-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **90** | ND<1.0 | ND<2.0 | **12** | **8.7** | **15** | **5.4** | - | ND<5.0 | **9.1** | ND<5.0 | ND<2.0 | ND<5.0 | **30** | **44** | ND<0.10 |
| SB6-SO-5-5 | 03/18/22 | ND<3.0 | ND<5.0 | **83** | ND<1.0 | ND<2.0 | **9.1** | **6.7** | **11** | **3.6** | - | ND<5.0 | **7.9** | ND<5.0 | ND<2.0 | ND<5.0 | **23** | **34** | ND<0.10 |
| SB6-SO-6-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **82** | ND<1.0 | ND<2.0 | **11** | **7.3** | **13** | **6.9** | - | ND<5.0 | **7.9** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **43** | ND<0.10 |
| SB6-SO-6-5 | 03/18/22 | ND<3.0 | ND<5.0 | **82** | ND<1.0 | ND<2.0 | **9.5** | **6.6** | **11** | ND<3.0 | - | ND<5.0 | **8.3** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **34** | ND<0.10 |
| SB6-SO-7-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **78** | ND<1.0 | ND<2.0 | **10** | **7.3** | **12** | **7.8** | - | ND<5.0 | **7.6** | ND<5.0 | ND<2.0 | ND<5.0 | **24** | **40** | ND<0.10 |
| SB6-SO-7-5 | 03/18/22 | ND<3.0 | ND<5.0 | **71** | ND<1.0 | ND<2.0 | **9.4** | **5.8** | **14** | **130** | ND<0.50 | ND<5.0 | **7.5** | ND<5.0 | ND<2.0 | ND<5.0 | **21** | **41** | ND<0.10 |
| SB6-SO-8-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **73** | ND<1.0 | ND<2.0 | **9.1** | **7.0** | **11** | ND<3.0 | - | ND<5.0 | **6.6** | ND<5.0 | ND<2.0 | ND<5.0 | **24** | **35** | ND<0.10 |
| SB6-SO-8-5 | 03/18/22 | ND<3.0 | ND<5.0 | **98** | ND<1.0 | ND<2.0 | **9.4** | **6.8** | **12** | ND<3.0 | - | ND<5.0 | **7.6** | ND<5.0 | ND<2.0 | ND<5.0 | **24** | **34** | ND<0.10 |

**Notes:**

Screening Levels for Residential and Commercial/Industrial Soil from San Francisco Regional Water Quality Control Board (SFRWQCB) Summary of Soil Environmental Screening Levels (ESLs); January 2019

Concentration ten times the Soluble Threshold Limit Concentration (STLC) screening value. This is typically considered a trigger number at which STLC and toxicity characteristic leaching procedure (TCLP) analyses should be run on the sample to determine solubility.

-- = screening level not available

ND<1.0 = Not detected at or above the associated reporting limit

Detections shown in **BOLD**

| | |
|---|---|
| 🟧 | Detection value exceeds screening level |
| 🟨 | Detection exceeds one or more hazardous waste characteristic criteria |
| ☐ | Detection value exceeds STLC & TCLP analysis trigger for metals |

# Table 4
# Summary of Soil Analytical Results - Volatile Organic Compounds
## 3344 Medford Street, Los Angeles

| Sample ID | Date Collected | 1,1-Difluoroethane | 1,2,4-Trimethylbenzene | 1,3,5-Trimethylbenzene | 2-Butanone | 4-Ethyltoluene | 4-Methyl-2-pentanone | Acetone | Benzene | Chloroethane | Chloroform | Chloromethane | Ethylbenzene | Isopropanol | m,p-Xylene | o-Xylene | Tetrachloroethene | Toluene | Xylenes, Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **United States Environmental Protection Agency (USEPA) Test Method 8260 B** | | | | | | | | | | | | | | | | | |
| | | **Results in micrograms per Liter (µg/L)** | | | | | | | | | | | | | | | | | |
| SFRWQCB ESLs [1] (Residential) | | -- | -- | -- | -- | -- | -- | 1,100 | 0.0032 | 350 | 0.0041 | 3.1 | 0.037 | -- | -- | -- | 0.015 | 10 | 3.5 |
| SFRWQCB ESLs [1](Commercial/Industrial) | | -- | -- | -- | -- | -- | -- | 4,500 | 0.014 | 1500 | 0.018 | 13 | 0.16 | -- | -- | -- | 0.067 | 4.4 | 15 |
| USEPA RSLs [2](Residential) | | 1,400 | 2.1 | 2.1 | 170 | -- | 100 | -- | -- | -- | -- | -- | -- | 7.0 | 3.3 | 3.3 | -- | -- | -- |
| USEPA RSLs [2](Composite Worker) | | 6,000 | 8.7 | 8.7 | 730 | -- | 430 | -- | -- | -- | -- | -- | -- | 29 | 15 | 15 | -- | -- | -- |
| SV1-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.030** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | **0.016** | ND<0.0087 | ND<0.0022 | **0.0037** | **0.0048** | ND<0.011 |
| SV1-15 | 03/01/22 | **0.0098** | ND<0.0074 | ND<0.0025 | **0.0054** | ND<0.0025 | ND<0.0061 | **0.023** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.0065** | **0.0035** | ND<0.011 |
| SV2-5 | 03/01/22 | **0.0054** | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.027** | ND<0.0016 | ND<0.0013 | **0.0051** | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | **0.0030** | **0.0049** | **0.059** | ND<0.011 |
| SV2-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0045** | ND<0.0025 | ND<0.0061 | **0.024** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | **0.0028** | **0.0089** | **0.081** | ND<0.011 |
| SV3-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0056** | ND<0.0025 | ND<0.0061 | **0.038** | **0.0022** | ND<0.0013 | ND<0.0024 | ND<0.0010 | **0.0022** | ND<0.012 | ND<0.0087 | **0.0028** | **0.0083** | **0.10** | ND<0.011 |
| SV3-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.033** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.0038** | ND<0.0019 | ND<0.011 |
| SV3-15 (DUP-2) | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0060** | ND<0.0025 | ND<0.0061 | **0.032** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.0069** | **0.0019** | ND<0.011 |
| SV4-5 | 03/01/22 | ND<0.0054 | **0.020** | **0.0088** | **0.0052** | **0.0057** | ND<0.0061 | **0.038** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | **0.0039** | ND<0.012 | **0.020** | **0.0083** | **0.0057** | **0.0087** | **0.028** |
| SV4-15 | 03/01/22 | ND<0.0054 | **0.034** | **0.014** | **0.0076** | **0.0075** | ND<0.0061 | **0.037** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | **0.0042** | ND<0.012 | **0.022** | **0.011** | **0.011** | **0.0094** | **0.033** |
| SV5-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.033** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.0034** | **0.0039** | ND<0.011 |
| SV5-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0060** | ND<0.0025 | **0.030** | **0.029** | ND<0.0016 | **0.013** | ND<0.0024 | **0.0030** | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.011** | **0.0031** | ND<0.011 |
| SV6-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.017** | ND<0.0025 | **0.0069** | **0.051** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | **0.0073** | ND<0.012 | **0.031** | **0.0091** | **0.0086** | **0.010** | **0.040** |
| SV6-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0075** | ND<0.0025 | ND<0.0061 | **0.039** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.017** | **0.0040** | ND<0.011 |
| SV7-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0044** | ND<0.0025 | ND<0.0061 | **0.027** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.011** | **0.0050** | ND<0.011 |
| SV7-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0077** | ND<0.0025 | ND<0.0061 | **0.037** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.019** | **0.0096** | ND<0.011 |
| SV8-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0046** | ND<0.0025 | ND<0.0061 | **0.033** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.011** | **0.0046** | ND<0.011 |
| SV8-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0066** | ND<0.0025 | ND<0.0061 | **0.036** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.018** | **0.0056** | ND<0.011 |
| SV9-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | ND<0.0048 | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | ND<0.0034 | ND<0.0019 | ND<0.011 |
| SV9-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0058** | ND<0.0025 | ND<0.0061 | **0.052** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.024** | **0.012** | ND<0.011 |
| SV10-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.026** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | **0.0026** | **0.015** | **0.0043** | ND<0.011 |
| SV10-5 (DUP-1) | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.027** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | **0.0022** | **0.013** | **0.0041** | ND<0.011 |
| SV10-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0070** | ND<0.0025 | ND<0.0061 | **0.031** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.026** | **0.0059** | ND<0.011 |

**Notes:**

This table is a summary of analytical results and only shows detected analytes. For a complete list of analytes, refer to the laboratory analytical results.

1. Screening Levels for Residential and Commercial/Industrial Subslab/Soil Gas Vapor Intrusion Human Health Risk Levels from San Francisco Regional Water Quality Control Board (SFRWQCB) Summary of Soil Environmental Screening Levels (ESLs); January 2019

2. Screening Levels for Composite Worker Soil from United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs); November 2021. The Ambient Air values were converted to soil vapor screening values by applying a 0.03 attenuation rate.

ND< = Not detected at or above the associated reporting limit

Results in micrograms per Liter (µg/L)

Detections shown in **BOLD**

🟧 Detection value exceeds residential screening value

me = LCS Recovery is within Marginal Exdeedance (ME) control limit range (± 4 SD from the mean).

S1+ = Surrogate recovery exceeds control limits, high biased.

# *PLATES*

HMC
HAZARD MANAGEMENT CONSULTING

FILE NAME:
FIGURE 1-SITE LAYOUT.MXD

DRAWN BY: CM

CHECKED BY: CS

DATE: FEBRUARY 2022

## SITE LAYOUT

1628 EAST 81ST ST.
LOS ANGELES, CA, 90001

PLATE
1

NOTE
SOIL BORINGS WILL BE COMPLETED TO 10 FEET BELOW GROUND SURFACE.

HMC
HAZARD MANAGEMENT CONSULTING

DRAWN BY: KF

CHECKED BY: CS

DATE: MARCH 2022

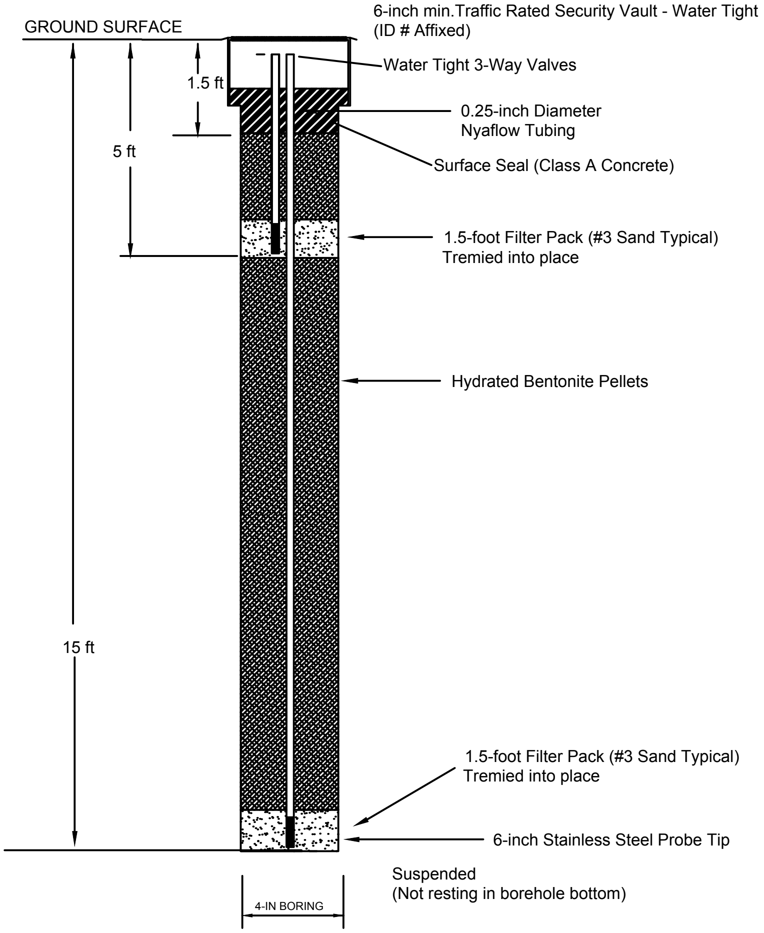
FILE NAME: FIGURE 2-PROPOSED SAMPLING LOCATIONS.MXD

# SOIL AND SOIL VAPOR SAMPLING LOCATIONS

1628 EAST 81ST ST.
LOS ANGELES, CA, 90001

FIGURE: 2

## MULTI-DEPTH SOIL VAPOR MONITORING PROBE



NOT TO SCALE

HMC
HAZARD MANAGEMENT CONSULTING

Dual SV Construction Detail.dwg

DUAL-NESTED SOIL VAPOR PROBE(S)
CONSTRUCTION DETAIL

PLATE: 3
REVISION NO: 1
DATE: 03/2021

# *APPENDIX A*

**Zero Accidents**
**Safety - First and Always**

# HEALTH AND SAFETY PLAN

## *Soil and Soil Vapor Investigation*

*1628 E. 81st Street*
*Los Angeles, California*

February 2, 2022

HMC Project HMC.1628 81st

*Prepared by:*

**HMC INC.**
211 Avenida Cordoba, Suite 200
San Clemente, California 92672

HMC is dedicated to providing a safe and healthful environment for employees, contractors and subcontractors, and protecting our clients' employees and assets, as well as the public. The guidelines set forth in this Health and Safety Plan summarize the minimum mandatory standards, requirements, and expectations to ensure the protection and safety of all HMC Inc team members while conducting environmental consulting activities at the Project Site. Each contractor or subcontractor must assume direct responsibility for their own employees' health and safety. Please note: **You are the person most responsible for safety in the workplace. You are encouraged to fully accept this responsibility and to be continuously aware of the conditions and situations that may compromise safety. No job is so urgent that it cannot be conducted safely.**

## Emergency Contact Information

| Title | Name | Phone & Pager Number |
|---|---|---|
| ***Emergency – Call 911*** | | |
| Ambulance | | 911 |
| Police | | 911 |
| Fire | | 911 |
| Local Hospital | Martin Luther King Community<br>1680 120th Street Street<br>Los Angeles, CA 90033 | (424) 338-8000 |
| Emergency Coordinators | Chris Stoker (HMC) | (949) 291-3677 cell |
| Alternate Emergency Coordinator | | |
| ***Project/Business*** | | |
| Project Manager / Designated Health and Safety Officer (DHSO) | Mark Cousineau (HMC) | (949) 361-3902 |
| Field Supervisors / Site Health and Safety Officer (SHSO) | Joshua Long (HMC) | (714) 421-0968 |
| Client Contact | Mark Cousineau (HMC) | (949) 361-3902 |

**ROUTE TO HOSPITAL:**

1. Head east on W 81st St toward S Denker Ave
2. Take S Vermont Ave, I-105 E and E 120th St to Healthy Wy in Willowbrook
3. Continue on Healthy Wy Facility is ~0.3 mi on right

# HASP ACKNOWLEDGEMENT SHEET

All project staff must sign, indicating they have read and understand the HASP and other referenced documents. A copy of this HASP and other referenced documents must be made available for their review and readily available at the job site.

| Employee Name/Job Title | Date Distributed | Signature |
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## CONTRACTOR HASP ACKNOWLEDGEMENT SHEET

A copy of this safety plan shall be provided to contractors and subcontractors who may be affected by activities covered under the scope of this HASP. All contractors and subcontractors must comply with applicable OSHA, EPA, and local government rules and regulations.

| Firm Name | Contact Person | Date Distributed |
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## HEALTH AND SAFETY MEETING

ALL PERSONNEL PARTICIPATING IN THE PROJECT MUST RECEIVE INITIAL HEALTH AND SAFETY ORIENTATION. THEREAFTER, A BRIEF TAILGATE SAFETY MEETING IS REQUIRED AS DEEMED NECESSARY BY THE SITE SAFETY OFFICER (OR AT LEAST ONCE EVERY 10 WORKING DAYS).

| Date | Topics | Name of Attendee | Firm Name | Employee Initials |
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# VISITOR LOG

IT IS HMC's POLICY THAT VISITORS MUST FURNISH HIS/HER OWN PERSONAL PROTECTIVE EQUIPMENT. ALL VISITORS ARE REQUIRED TO SIGN THE VISITOR LOG AND COMPLY WITH THE SAFETY PLAN REQUIREMENTS. IF THE VISITOR REPRESENTS A REGULATORY AGENCY CONCERNED WITH SITE HEALTH AND SAFETY ISSUES, THE SITE SAFETY OFFICER SHALL ALSO IMMEDIATELY NOTIFY DHSO.

| Name of Visitor | Firm Name | Date of Visit | Signature |
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## TABLE OF CONTENTS

# TABLES

# APPENDICES

# 1.0 INTRODUCTION

This Health and Safety Plan document (HASP) has been developed to support assessment activities to be conducted by Hazard Management Consulting Inc (HMC) and sub-contractor personnel at the Project Site.

This HASP establishes the responsibilities, requirements, and procedures for the protection of personnel while conducting on-site work. Working conditions may necessitate modification of this plan. Except in emergencies, no deviations from this plan may be implemented without the prior notification and approval by the Project Manager with consultation from the Designated Health and Safety Officer (DHSO). The specific requirements of this HASP apply to HMC employees, contractors and subcontractors involved in implementing the described scope of work. It is not applicable to other contractors and/or site tasks unless specifically authorized in writing for such use by a designated HMC representative.

The health and safety protocols outlined in this plan are designed to ensure compliance with Federal, State and local regulations governing worker safety on hazardous waste sites. Incorporated in this HASP by either direct or indirect reference are all appropriate and applicable sections of the *HMC Safety and Health Program Manual*. In the case where an apparent conflict exists between what is presented in the HASP and the above referenced document the most conservative of the documents will initially be followed. The apparent conflict will be brought to the attention of the Project Manager and with consultation from the DHSO, and as appropriate the Client and/or Site Contact, a written resolution presented in the form of an addendum to this HASP prepared and presented to all field staff.

HMC's intent is to provide a safe and healthful work environment for all employees and subcontractors. This HASP has been developed to fulfill the following objectives:

- Perform a hazard assessment to identify and assess health and safety hazards associated with project tasks and activities.
- Specify and establish procedures and practices to provide a safe and healthful workplace for employees, subcontractors, and site visitors.
- Detail personal protective equipment needed to protect employees and subcontractors conducting field task activities.
- Instruct employees, subcontractors and site visitors on procedures to minimize the potential for injury or exposure to a hazardous condition.
- Train employees and subcontractors on the proper action to be taken if a hazardous condition cannot be avoided by engineering controls.
- Provide guidelines for emergency response for known hazards and hazardous situations.
- Establish procedures to minimize or prevent adverse impact to employees, subcontractors, site visitors and the surrounding environment and community in the event of a release of a toxic chemical or substance.

## 1.1 IMPLEMENTATION AND MODIFICATION OF THE HASP

This HASP and other referenced documents are to be read and understood by all on-site field personnel. Site personnel are required to complete and sign a Personnel Acknowledge Form indicating acknowledgment, agreement, acceptance, and understanding of the contents of all appropriate health and safety documentation including but not limited to this HASP and HASP addendums.

All persons entering the site will receive a safety and health indoctrination/overview of the site that discusses site health and safety issues. Site workers and long-term visitors are required to read this HASP and sign and date the log as having read and understood the provisions of the HASP. Before any field activities begin, weekly, to discuss HASP addendums, and/or as conditions warrant health and safety tailgate meetings will be held with on-site field personnel to discuss safety procedures and to familiarize personnel with the potential hazards of the site. The Site Health and Safety Officer (SHSO) will document all tailgate and/or other health and safety meetings in a logbook. The SHSO will conduct routine (e.g., daily) assessments of the work area and on-site field personnel to ensure that the documented health and safety procedures are implemented and adequate. If any operation, practice, and/or equipment are not adequate, based on the SHSOs assessment, the SHSO will document the item in a logbook and notify the DSHO. Operations will cease or the faulty equipment will be removed and replaced, as appropriate. Unacceptable practices and/or faulty equipment will be remedied immediately, and the HASP will be modified to correct any deficiencies in the effectiveness of the Plan.

As, and if, required this HASP may be modified. The HASP will be modified in writing by preparing an addendum. Each addendum will be reviewed and approved by the Project Manager with consultation from the DHSO.

## 1.2 PROJECT SPECIFIC TASKS COVERED BY THIS HEALTH AND SAFETY PLAN

This HASP covers the following environmental consulting activities to be conducted by HMC at the Project Site.

Tasks to be conducted include

- Conduct Tailgate Safety Meeting
- Mark and Clear Borehole Locations
- Drill, Sample, and Abandon Soil Borings
- Install Soil Vapor Probes
- Sample Soil Vapor Probes
- Manage Investigation Derived Waste

# 2.0 ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES

## 2.1 ALL PERSONNEL

All field personnel are responsible for continuous adherence to health and safety procedures during the performance of any and all assigned work. In no case may work be performed in a manner that conflicts with the intent of this plan or the inherent health and safety cautions outlined in this HASP and other referenced documentation. **Please note that you are the person most responsible for safety in the workplace.** You are encouraged to fully accept this responsibility and to be continuously aware of the conditions and situations that may compromise safety. **No job is so urgent that it cannot be conducted safely**.

Any person who observes unsafe acts or conditions or other safety problems must immediately report observations/concerns to supervisory personnel (e.g., SHSO, DHSO, and Project Manager). If there is any dispute with regard to health and safety, the on-site HMC staff will attempt to resolve the issue and if the issue cannot be resolved, they will consult off-site technical staff and supervisors for assistance. The specific task or operation in question must be discontinued until the issue is resolved. No person may work in a manner that conflicts with the safety and environmental precautions expressed in this HASP. HMC employees are subject to progressive discipline and may be terminated for blatant or continued violations.

## 2.2 PROJECT MANAGER

The Project Manager is responsible for ensuring that the necessary personnel, equipment, and other applicable resources are available for this project and that the reporting, scheduling, and budgetary obligations for this project are met.

The Project Manager is ultimately responsible for ensuring that all project activities are completed in accordance with requirements set forth in this HASP and other referenced documentation. The Project Manager must perform at least one on-site safety review during the project. The Project Manager is responsible for ensuring that all incidents are reported and thoroughly investigated. The Project Manager must approve in writing any addenda or modifications to the HASP.

## 2.3 FIELD SUPERVISOR

The Field Supervisor is responsible for field implementation of the HASP in connection with the SHSO (there is some overlap of the health and safety responsibilities of the Field Supervisor and SHSO. In the case where these responsibilities are assigned to more than one individual is up to these individuals to coordinate their respective activities to ensure all their responsibilities are fully carried out and executed). This includes communicating site requirements to all on-site project personnel. The Field Supervisor is responsible for informing the SHSO and the Project Manager of any changes in the plan work elements, so that those changes may be properly addressed from a health and safety perspective. The Field Supervisor, as the on-site representative of HMC, is responsible for maintaining contact with the Client and/or Site Contact, and the Project Manager. Along with the SHSO the Field Supervisor is responsible for coordinating and enforcing on-site health and safety activities for all HMC team members (inclusive of contractors, subcontractors, and visitors) on site at all times. The Field Supervisor reports to the Project Manager and works directly with the Client and Site Contacts.

Other responsibilities of the Field Supervisor include:

- Conducting tailgate safety meetings and maintaining attendance logs and records.
- Enforcing the requirements of the HASP. This includes performing daily safety inspections of the work site.
- Stopping work, as required, to ensure personal safety and protection of property, or where life or property-threatening noncompliance with safety requirements is found.
- Determining and posting routes to capable medical facilities, emergency telephone numbers, and arranging emergency transportation to medical facilities.
- Notifying local public emergency officers of the nature of the site operations and posting of their telephone numbers in an appropriate location.
- Observing on-site project personnel for signs of chemical or physical trauma.
- Ensuring that all HMC team field personnel have been given the proper medical clearance, ensuring that all personnel have met appropriate training requirements and have the appropriate training documentation on site, and monitoring all team members to ensure compliance with the HASP.

## 2.4 SITE HEALTH AND SAFETY OFFICER (SHSO)

The SHSO will have the responsibility and authority to implement and enforce the approved HASP, this includes modifying/halting work, and removal of personnel from the work area if conditions change and effect on-site/off-site health and safety matters. The SHSO serves as the main contact for any on-site emergency. The SHSO conducts daily inspections to determine if operations are being conducted in accordance with the HASP and Cal-OSHA/OSHA regulations. The SHSO is assigned to the Project Manager for the duration of the project but reports directly to the DHSO with operational issues. An open dialogue is kept between the SHSO and supervisory personnel of the project to ensure that safety issues are quickly recognized, addressed, and corrective action taken (as required).

The SHSO has the ultimate responsibility to stop any operation that threatens the health and safety of the team, client employees and assets, the surrounding community, or that causes significant adverse impact to the environment. Other responsibilities include, but are not limited to:

- Implementing all on-site health and safety procedures and operations.
- Observing work crew members for symptoms of on-site exposure or stress.
- Upgrading or downgrading, in coordination with the DHSO and the Project Manager, the levels of personal protection based upon site observations and monitoring results.

- Informing the Project Manager of significant changes in the site environment that require equipment or procedure changes.
- Arranging and ensuring the availability of first aid and on-site emergency medical care, as necessary.
- Determining evacuation routes, establishing, and posting local emergency telephone numbers, and arranging emergency transportation.
- Ensuring that all site personnel and visitors have received the proper training and medical clearance before entering the site.
- Establishing exclusion, contamination reduction, and support zones.
- Ensuring that the respiratory protection program is implemented.
- Ensuring that decontamination procedures meet established criteria.
- Ensuring that there is a qualified first-aid person on site.

## 2.5 DESIGNATED HEALTH AND SAFETY OFFICER (DHSO)

The DHSO is responsible for the development, implementation, and oversight of the Health and Safety Program and the HASP. The specific duties of the DHSO include:

- Providing technical input into the design and implementation of the site HASP.
- Advising on potential for worker exposure to project hazards along with appropriate methods and/or controls to eliminate site hazards.
- Working with, supporting, and providing consultation to, the Project Manager on health and safety issues to ensure a safe workplace is maintained throughout field activities and to ensure continuous compliance with the HASP and other referenced documents.

## 2.6 SUBCONTRACTORS, VISITORS AND OTHER ON-SITE PERSONNEL

Subcontractors are responsible for the health and safety of their employees and for complying with the standards established in this HASP and other referenced documentation. Subcontractors will report to the Field Supervisor. All subcontractors, visitors, and other on-site personnel must check in with the Field Supervisor prior to gaining access to the work areas, to verify that all appropriate entry requirements are met.

# 3.0 HAZARD ASSESSMENT

## 3.1 PHYSICAL HAZARD ASSESSMENT

The typical physical hazards that have been identified for the scope of work to be conducted under this HASP are listed below in Table 1. Currently, additional safety consideration has been given to potential worker hazards associated with the COVID-19 pandemic. Appendix B provides a job safety analysis (JSA) of procedures to address this unique potential condition.

**Table 1**
**Physical Hazard Assessment**

| Tasks | Hazard | Tasks | Hazard | Tasks | Hazards |
|---|---|---|---|---|---|
| All | Lifting | All | Fire, explosion | All | Noise |
| All | Electrical | All | Vehicular operation | All | Heat exhaustion |
| All | Material handling | All | Uneven terrain, slips, trips, falls | All | Underground and overhead utilities |
| All | Hand and power tools | All | Equipment and personnel decontamination | NA | Hot work, welding, cutting |
| All | Heavy equipment, excavation, drilling | All | COVID-19 infection or transmission | All | Poisonous plants and animals |

NA = Not Anticipated but may occur.

## 3.2 CHEMICAL HAZARD ASSESSMENT

Based on discussions with site personnel chemicals of potential concern (COPC), which might be encountered during field activities include total petroleum hydrocarbons (TPH); various volatile organic compounds (VOCs, e.g., benzene, toluene, xylenes, ethylbenzene); and chlorinated VOCs (e.g., trichloroethylene and tetrachloroethylene).

# 4.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) will be required during the fieldwork. PPE levels will be based primarily on background hazard assessment data, work task requirements, and real-time monitoring data obtained by monitoring instrumentation (discussed in Section 6.0 of this HASP). The initial levels of protection anticipated for each task, based on existing site characterization data, are presented on Table 2.

**Table 2**
**Anticipated Personal Protective Equipment Requirements**

| Task | PPE | Upgrade | Special Requirements for Upgrade |
|---|---|---|---|
| Task 1: Tailgate Meeting | Level D | Level C (OV +P100) | Notify SHSO or PM |
| Task 2: Mark and Clear Soil Boring Locations | Level D | Level C (OV+P100) | Notify SHSO or PM |
| Task 3: Drill, sample, and abandon soil vapor probes, soil borings and hand auger borings | Level D | Level C (OV +P100)<br>1/2 mask minimum | Notify SHSO or PM |
| Task 4: Collect soil vapor samples | Level D | Level C (OV +P100)<br>1/2 mask minimum | Notify SHSO or PM |
| Task 5: Manage investigation derived waste | Level D | Level C (OV +P100)<br>1/2 mask minimum | Notify SHSO or PM |

OV+P100 = Organic vapor plus P100 pre-filter respirator cartridge

Only PPE that meets the following American National Standards Institute (ANSI) standards are to be worn.

- Eye protection - ANSI Z87.1
- Head protection - ANSI Z89.1
- Foot protection - ANSI Z41

Respiratory protective equipment must be NIOSH approved for the anticipated chemicals and hazards.

***Level D PPE shall consist of:***

- Hardhat
- Safety glasses (with side shields optional)
- Steel-toed work boots
- Traffic safety vest if traffic is present
- Long pants and shirt
- Work or protective gloves

***Modified Level D in addition to the above may include:***

- Level D PPE plus
- Nitrile gloves - N-dex for sampling (or another approved equivalent)
- Nitrile or rubber gloves - for chemical activities.
- Steel-toed, rubber boots - for activities inside the exclusion/regulated and decontamination areas.

## 5.0 EXPOSURE MONITORING

Exposure Monitoring will be conducted to assess hazard control measures that must be implemented. Assessing control measures involves characterization of the chemical, physical, and other safety hazards at the site using a PID in the breathing space. Hazard assessment is an on-going process. This section addresses the procedures for monitoring both chemical and physical hazards specific to the work tasks to be conducted.

### 5.1 AIR- MONITORING AND SAMPLING PROGRAM

An air-monitoring program will be implemented for monitoring petroleum hydrocarbons, volatile organic vapors, carbon monoxide, and dust in air. Data obtained from air monitoring will be utilized to assess proper levels of PPE in accordance with the action levels presented in Table 3 thereby ensuring worker safety and preventing off-site releases of hazardous substances in concentrations that threaten human health. The action levels are for air within the breathing zone of field personnel. The minimum requirements for the air-monitoring program are summarized on Table 4.

**Table 3**
**Air Monitoring Action Levels and PPE Requirements**

| COC | Action Levels (ppm) | PPE / Action |
|---|---|---|
| TPH | <50<br>50 to 100<br>>100 ppm<br>>200 ppm | Level D<br>Level D – Notify SHSO or PM<br>Level C – Notify SHSO or PM<br>Level C – Notify SHSO or PM, Stop work, Leave area |
| Aromatic Volatile Organic Compounds | <50<br>50 to 100<br>>100 ppm<br>>200 ppm | Level D<br>Level D – Notify SHSO or PM<br>Level C – Notify SHSO or PM<br>Level C – Notify SHSO or PM, Stop work, Leave area |
| Benzene | <1<br>0.25 to 1<br>>1<br>>10 to 50<br>>50 | Level D<br>Level D – Notify SHSO or PM<br>Level C - half mask respirator<br>Level C - Full face respirator<br>Notify SHSO or PM, Stop work, Leave area |

| COC | Action Levels (ppm) | PPE / Action |
|---|---|---|
| Halogenated Volatile Organic Compounds | <25<br>25 to 50<br>>50 | Level D<br>Level D – Notify SHSO or PM<br>Level C – Notify SHSO or PM, Stop work, Leave area |
| Carbonyl Volatile Organic Compounds | <25<br>25 to 50<br>>50 | Level D<br>Level D – Notify SHSO or PM<br>Level C – Notify SHSO or PM, Stop work, Leave area |
| Carbon Monoxide | <50 ppm<br>>50 ppm | Level D<br>Notify SHSO or PM, Stop work, Leave area |
| Dust (silica from concrete coring) | <0.025 mg/m$^3$<br>>0.025 mg/m$^3$ | Dust Control/Level D<br>Notify SHSO or PM, Stop work, Leave area |
| Dust (metals) | <10 mg/m$^3$<br>>10 mg/m$^3$ | Dust Control/Level D<br>Notify SHSO or PM, Stop work, Leave area |

**Table 4**
**Air Monitoring Program Minimum Requirements**

| Chemical of Concern | Instrument | Frequency | Special Equipment\Method |
|---|---|---|---|
| TPH<br>and<br>Aromatic Hydrocarbons<br>and<br>Volatile Organic Compounds | PID (or other equivalent direct reading instrument [DRI]) | During activities that can disturb impacted soil, groundwater and/or surface water, and FHP.<br>1. At the beginning of the task.<br>2. When the task changes.<br>3. Indications of chemical exposure or release.<br>4. Every 30 minutes unless readings are less than 10% of action level.<br>5. Every 60 minutes if concentrations are less than 10% of the action level | Lamp 10.2ev |

| | | | |
|---|---|---|---|
| | | 6. 1 time per shift if non-detected. | |
| Benzene | PID, or Colorimetric Detector Tube | 1. Monitor contaminant concentrations in the workers breathing zone with a PID as stated above.<br>2. A PID reading of one (1.0) unit above background sustained for a period of one (1) minute shall be further characterized using a colorimetric detector tube sensitive to 0.5-ppm benzene.<br>3. A colorimetric detector tube reading of one (1.0) ppm benzene or greater will be verified by a second measurement, at the end of a ten (10) minute interval. If a reading of greater than one (1.0) ppm benzene is detected periodic measurements will be taken. Continuous readings using the PID will be taken during this period.<br>Refer to Section 6.1 of the HASP for more detailed procedures. | Lamp 10.2eV<br>Benzene colorimetric detector tube |
| Carbon Monoxide | Electronic Detector | 1. Monitor contaminant concentrations in the workers breathing zone with a CO detector prior to start of drilling.<br>2. Monitor contaminant concentrations in the workers breathing zone with a CO detector while drilling.<br>3. Monitor junctions in engine emission vent hosing and patch with duct-tape if necessary. | Electronic CO detector |
| Dust | Visual | No visual emissions permitted at boundary of worksite | |

A portable photoionization detector (PID) with a 10.2 electron-volt (eV) ultra-violet radiation source will be used as the "front-line" instrument for monitoring petroleum hydrocarbons and volatile organic compounds in air (or other equivalent direct reading instrument [DRI]). The PID will be calibrated to isobutylene or hexane. In using a PID or other DRI an action level will be considered met or exceeded when the instrument reading exceeds the specific action level continuously for one (1) minute. Upon this condition, a second measurement will be taken at the end of a ten (10) minute interval.

Since benzene is considered most toxic compound and the benzene action level is the most conservative it will be used as the driver for assessing exposure and determining appropriate levels of PPE. The action level for benzene combines the occupational exposure standard for benzene listed in 29 CFR Part 1910.1028, and the ACGIH TLV-TWA. The following protocol will be used for monitoring exposure and establishing the appropriate level of protection for these exposures.

1. Monitor contaminant concentrations in the workers breathing zone with a PID (or other DRI) sensitive to aromatic compounds.
2. Level D protection is considered acceptable if instrument readings remain below one (1) unit above background.
3. An instrument reading of one (1.0) unit above background sustained for a period of one (1) minute shall be further characterized by taking a breathing zone air sample using a colorimetric detector tube. The colorimetric detector tube must be sensitive to 0.5-ppm benzene.
4. A colorimetric detector tube indication of one (1.0) ppm benzene or greater shall be verified by a second measurement, using a colorimetric detector tube, at the end of a ten (10) minute interval. As long as a reading of greater than one (1.0) ppm benzene is detected periodic measurements should be taken with the colorimetric detector tube. Continuous readings using the PID will be taken during this period.
5. Level C protection is required if colorimetric detector tube readings indicate benzene equal to or greater than one (1) ppm in the workers breathing zone. Alternatively, the work area may be evacuated until readings drop back to acceptable levels for a period of no less than 10 continuous minutes and/or engineering controls are instituted to ensure worker safety.
6. Level C protection with a half face respirator is considered acceptable if the colorimetric detector tube indicates greater than one (1.0) but less than ten (10) ppm benzene.
7. Level C protection with a full-face respirator is considered acceptable if the colorimetric detector tube indicates greater than ten (10) but less fifty (50) ppm benzene.
8. If levels of greater than 50 units above background with the PID or 50 ppm benzene using a colorimetric detector tube are detected work will stop and the work area evacuated. Periodic measurements will be taken and/or engineering controls instituted to ensure worker safety and prevent off-site releases of hazardous substances in concentrations that threaten human health. Work may resume when PID reading and colorimetric tubes indicated that benzene measurements have been reduced below 50 units/ppm.

## 5.2 EXPLOSION HAZARDS

Explosion hazards exist from the presence of volatile and potentially explosive hydrocarbon vapors in saturated soils and groundwater. Explosion hazards will not be monitored during work activities.

## 5.3 NOISE

Action levels for noise exposure are provided on Table 5.

**Table 5**
**Noise Monitoring Action Levels**

| Intensity (dBA) | Action |
|---|---|
| <85 | Work may continue without change**.** |
| >85 | Hearing protection required. |

## 5.4 HEAT STRESS MONITORING

The stress of working in a hot environment can cause a variety of illnesses including heat exhaustion or heat stroke. Heat stroke can be fatal. Personal protective equipment can significantly increase heat stress. To reduce or prevent heat stress, frequent rest periods and controlled beverage consumption to replace body fluids and electrolytes may be required.

Additionally, quantitative physiological monitoring for heat stress may be conducted. Physiological monitoring for heat stress includes heart rate as a primary indicator. The frequency of monitoring depends on the ambient temperature, the level of protection used on-site, and the type of work being performed. To determine the initial monitoring frequency, after a work period of moderate exertion, use the information provided on Table 6.

**Table 6**
**Heat Stress Monitoring Frequency**

| Adjusted Temperature* | Level D | Level C |
|---|---|---|
| 90 $^o$F or above | after 45 minutes | after 15 minutes |
| 87.5 to 90 $^o$F | after 60 minutes | after 30 minutes |
| 82.5 to 87.5 $^o$F | after 90 minutes | after 60 minutes |
| 77.5 to 82.5 $^o$F | after 120 minutes | after 90 minutes |
| 72.5 to 77.5 $^o$F | after 150 minutes | after 120 minutes |

$^o$F = temperature in degree Fahrenheit.
* Adjusted air temperature equals the observed temp + (13 x % sunshine); air temp measured with bulb shielded from radiant heat, percent sunshine is the time sun is not covered by clouds thick enough to produce a shadow (100% = no cloud cover and a sharp, distinct shadow; 0% = no shadows)

Physiological monitoring of heat stress will be conducted by counting the radial pulse during a 30 second period as early as possible in the rest cycle. If the heart rate exceeds 110 beats per minute, shorten the next work cycle by one third while keeping the rest cycle the same. At the next rest cycle, count the radial pulse during a 30 second period as early as possible in the rest cycle. If the heart rate again exceeds 110 beats per minute, shorten the next work cycle by one third while keeping the rest period the same. In addition, take the oral temperature of the worker.

On-site personnel shall be trained to recognize the symptoms of heat stress and the appropriate action to take upon recognition. Even though physiological monitoring is not always necessary, it is essential that personnel understand the significance of heat stress and its recognition. It is also important that personnel understand the difference between heat exhaustion and heat stroke. Some of the symptoms for heat exhaustion and heat stroke are provided in Table 7.

**Table 7**
**Heat Exhaustion versus Heat Stroke Symptoms**

| Heat Exhaustion | Heat Stroke |
|---|---|
| Clammy skin | Staggering gait |
| Weakness | Mental confusion |
| Fatigue | Hot skin |
| Light headiness | Temperature rise (yet may feel chilled) |
| Fainting | Convulsions |
| Rapid pulse | Unconsciousness |
| Nausea (vomiting) | Incoherent, delirious |

If a worker exhibits the symptoms of heat exhaustion conduct the following:

- Remove the victim to a cool and uncontaminated area. Elevate the victim’s feet and allow him/her to rest.
- Remove protective clothing. Loosen tight or constrictive clothing.
- Cool the victim with cold cloths and give “sips” of cool water. Cool the temperature control areas of the body, forehead, back of neck and wrists

If a worker exhibits the symptoms of heat stroke immediately perform the following steps:

- Remove victim to a cool, uncontaminated area.

- Cool the victims’ whole body with water compresses and/or rapid fanning.
- Give water to drink if conscious.
- Transport the victim to a medical facility for further cooling and monitoring of body functions.

**HEAT STROKE IS A LIFE-THREATENING MEDICAL EMERGENCY!**

# 6.0 MEDICAL MONITORING, SANITATION AND HYGIENE PRACTICES

## 6.1 MEDICAL SURVEILLANCE PROGRAM

Based on current data characterizing the site contamination and potential hazards to personnel involved in project activities, a project specific medical surveillance program is not required beyond that which is required under Title 8 CCR 5194 HAZWOPER. Employee exposure to airborne contaminants is not expected to approach the applicable Cal-OSHA action levels or permissible exposure levels under foreseeable work conditions.

Medical evaluations for the wearing of respiratory protection will be given to each worker required to wear a respirator in accordance with Title 8 CCR Section 5144. A certification by a licensed physician of fitness to wear respiratory protection is required for each worker entering the regulated area/exclusion zone if they are required to wear respiratory protection.

## 6.2 SANITATION AND PERSONAL HYGIENE

Sanitation and personal hygiene facilities are available at the site. Workers are expected and encouraged to wash their face and hands before leaving the site and before smoking, eating or taking breaks.

## 6.3 DRINKING WATER

Drinking water will not be provided and is unavailable at the site. Each employee shall bring their own drinking water to the site and keep it inside their vehicle. The water will be kept cool to encourage personnel to drink. If temperatures exceed 75 °F, break periods will be provided to encourage people to drink water and metabolite supplements such as Gatorade.

# 7.0 TRAINING

All site workers have received the following information:

The SHSO shall ensure that each site worker has a working knowledge of the HASP and other referenced documentation, and is responsible for conducting regular Tailgate Safety Meeting(s) (at the beginning of each shift, whenever new personnel arrive at the site, and as site conditions change, as tasks are added, revised, and/or changed, and as addendum to this HASP require). The typical Tailgate Safety Meeting will be brief and address only the most critical safety issues, such as the types of accidents most likely to occur, and areas where improvements need to be made with respect to health and safety. A more in-depth tailgate session will be held at the beginning of each week, whenever new personnel arrive at the site, and when new types of activities are undertaken. The physical hazards of concern will be identified at each meeting. Potential topics of discussion at these meetings include the following:

- Protective Clothing/Equipment (Task Specific).
- Chemical Hazards (Task Specific).
- Physical Hazards (Task Specific).
- Emergency Procedures.
- Hospital/Ambulance Route.
- Standard Operating Procedures.
- Other safety topics which are relevant to the site

## 8.0 CONTINGENCY PLAN AND EMERGENCY EVACUATION PLAN

At least one person trained in first aid and CPR will be present on site at all times work is being conducted. First aid and blood borne pathogen supplies shall be available at the site at all times. Personnel shall be informed of the location of such supplies during the tailgate safety meeting. In the event of an emergency, personnel will immediately leave the work area and assemble at a prearranged area.

If a fire occurs, personnel shall assess the size and nature of the fire. If it is safe to do so, it shall be extinguished with a fire extinguisher. If it is not safe to extinguish with a fire extinguisher, the County Fire Authority will be contacted at 911.

In the event of a first aid emergency, if the injured person can self-administer first aid they should be encouraged to do so. If the person cannot self-administer first aid, the on-site qualified first aid person shall administer first aid if it is safe to do so. Personnel shall not endanger themselves to render aid to another person.

A cell phone will be easily accessible at the work areas for emergency notifications.

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# 9.0 DECONTAMINATION PROCEDURES

Establishment of decontamination procedures for personnel and equipment is necessary to control contamination and to protect field personnel.

## 9.1 EQUIPMENT DECONTAMINATION AND DISPOSAL OF CONTAMINATED MATERIALS

Equipment requiring decontamination may include excavation equipment, hand tools, soil and water sampling devices, and certain protective equipment. Tools and protective equipment shall be decontaminated using a soft bristle brush and a detergent (Alconox or TSP mixed in water) followed by two water rinses.

All materials and equipment used for decontamination must be disposed of properly. Disposable clothing, tools, buckets, brushes, and all other equipment that is contaminated will be secured in appropriately Department of Transportation (DOT) specification 55-gallon drums or other containers. Clothing that will be reused, but which is not completely decontaminated on the site, will be secured in plastic bags before being removed from the site. Contaminated wash water solutions shall be transferred into portable storage tanks, pending disposal. All soil cuttings produced during soil sampling will be centrally located for subsequent characterization and disposal.

Exposure to chemicals can be divided into two categories:

- Injuries from direct contact, such as acid burns or inhalation of toxic chemicals.
- Potential injury due to gross contamination on clothing or equipment.

For inhalation exposure cases, a qualified physician can only perform treatment. If the contaminant is on the skin or the eyes, immediate measures can be taken on-site to counteract the substance's effect. First aid treatment consists of flooding the affected area with copious amounts of water. The SHSO must assure that an adequate supply of running water or a portable emergency eyewash is available on-site.

When protective clothing is grossly contaminated, contaminants can possibly be transferred to treatment personnel and cause an exposure. Unless severe medical problems have occurred simultaneously with personnel contamination, the protective clothing should be carefully removed.

# 10.0 SITE AND TRAFFIC CONTROL PLAN

## 10.1 TRAFFIC CONTROL

Vehicular traffic is limited to onsite personnel and authorized contractors working onsite. Traffic control at the site is controlled through locked gates at the entrance/exit. All contractor personnel entering the site are required to have entry permissions.

# APPENDIX A
# CODE OF SAFE PRACTICES
## General Construction Services Code of Safe Practices

1. All persons shall follow these safe practices rules, render every possible aid to safe operations, and report all unsafe conditions or practices to the foreman or superintendent.
2. Foremen shall insist on employees observing and obeying every rule, regulation, and order as is necessary to the safe conduct of the work and shall take such action as is necessary to obtain observance.
3. All employees shall be given frequent accident prevention instructions. Instructions shall be given at least every 10 working days.
4. Anyone known to be under the influence of drugs or intoxication substances which impair the employee's ability to safely perform the assigned duties shall not be allowed on the job while in that condition.
5. Horseplay, scuffling, and other activities which tend to have an adverse influence on the safety or well-being of the employees shall be prohibited.
6. Work shall be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment.
7. No one shall knowingly be permitted or required to work while the employee's ability or alertness is so impaired by fatigue, illness, or other causes that it might unnecessarily expose the employee or others to injury.
8. Employees shall not enter manholes, underground vaults, chambers, tanks, silos, or other similar places that receive little ventilation, unless it has been determined that it is safe to enter.
9. Employees shall be instructed to ensure that all guards and other protective devices are in proper places and adjusted and shall report deficiencies promptly to the foreman or superintendent.
10. Crowding or pushing when boarding or leaving any vehicle or other conveyance shall be prohibited.
11. Workers shall not handle or tamper with any electrical equipment, machinery, or air or water lines in a manner not within the scope of their duties, unless they have received instructions from their foreman.
12. All injuries shall be reported promptly to the foreman or superintendent so that arrangements can be made for medical or first aid treatment.
13. When lifting heavy objects, the large muscles of the leg instead of the smaller muscles of the back shall be used.
14. Inappropriate footwear or shoes with thin or badly worn soles shall not be worn.

15. Materials, tools, or other objects shall not be thrown from buildings or structures until proper precautions are taken to protect others from the falling objects.
16. Employees shall cleanse thoroughly after handling hazardous substances and follow special instructions from authorized sources.
17. Work shall be so arranged that employees are able to face each ladder and use both hands while climbing.
18. Gasoline shall not be used for cleaning purposes.
19. No burning, welding, or other source of ignition shall be applied to any enclosed tank or vessel, even if there are some openings, until it has first been determined that no possibility of explosion exists, and authority for the work is obtained from the foreman or superintendent.
20. Any damage to scaffolds, falsework, or other supporting structures shall be immediately reported to the foreman and repaired before use.
21. All tools and equipment shall be maintained in good condition.
22. Damaged tools or equipment shall be removed from service and tagged **“DEFECTIVE.”**
23. Pipe or Stillson wrenches shall not be used as a substitute for other wrenches.
24. Only appropriate tools shall be used for the job.
25. Wrenches shall not be altered by the addition of handle extensions or “cheaters.”
26. Files shall be equipped with handles and not used to punch or pry.
27. A screwdriver shall not be used as a chisel.
28. Wheelbarrows shall not be pushed with handles in an upright position.
29. Portable electric tools shall not be lifted or lowered by means of the power cord. Ropes shall be used.
30. Electric cords shall not be exposed to damage from vehicles.
31. In locations where the use of a portable power tool is difficult, the tool shall be supported by means of a rope or similar support of adequate strength.
32. Only authorized persons shall operate machinery or equipment.
33. Loose or frayed clothing, or long hair, dangling ties, finger rings, etc. shall not be worn around moving machinery or other sources of entanglement.
34. Machinery shall not be serviced, repaired, or adjusted while in operation, nor shall oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards to protect the person performing the work.
35. Where appropriate, lock-out procedures shall be used.
36. Employees shall not work under vehicles supported by jacks or chain hoists, without protective blocking that will prevent injury if jacks or hoists should fail.
37. Air hoses shall not be disconnected at compressors until hose line has been bled.

38. All excavations shall be visually inspected before backfilling, to ensure that it is safe to backfill.
39. Excavating equipment shall not be operated near tops of cuts, banks, and cliffs if employees are working below.
40. Tractors, bulldozers, scrapers, and carryalls shall not operate where there is possibility of overturning in dangerous areas like edges of deep fills, cut banks, and steep slopes.
41. When loading where there is a probability of dangerous slides or movement of material, the wheels or treads of loading equipment, other than that riding on rails, should be turned in the direction which will facilitate escape in case of danger, except in a situation where this position of the wheels or treads would cause a greater operational hazard.

| | | |
|---|---|---|
| **Performance of Field Work During Coronavirus (COVID-19) Outbreak**<br>**(Currently Required Addendum to all Company JSAs)** | Date:<br>Location: | Onsite Work Crew: |

## APPLICATION:

The requirements detailed in this JSA apply to all field work Company wide as of 03/19/2020 and until rescinded. As such it is a required addendum to all company and Client Site-Specific Health & Safety Plans (HASPs) and JSAs. This document applies to all field work types performed by HMC.

## PRECEDENCE:

Actions and mitigation measures described in this JSA supersede all other directives, except where more protective mitigation measures are specified.

| Task | Hazards | Hazard Control Measures | PPE |
|---|---|---|---|
| **1. Work Acceptance, Planning & Preparation** | Work that is not 100% outdoors and/or indoors at vacant facilities presents an increased infection and transmittal hazard.<br>Work requiring interaction with outside parties presents an increased infection and transmittal hazard.<br>More than one Technician per vehicle presents an increased infection and transmittal hazard.<br>Requiring Technicians to share or swap vehicles presents an increased infection and transmittal hazard.<br>Travel that requires overnight lodging and dining out presents an increased infection and transmittal hazard. | 1. Do not work accept assignments that involve entry into occupied spaces or structures.<br>2. Reduce work scopes so that typically required interactions are temporarily eliminated.<br>3. Pre-Plan and choreograph any required entry into occupied spaces, interactions with the public, clients, site personnel, and/or adjacent property personnel. Review requirements of this JSA, especially Social Distancing requirements with the parties involved. Cancel any work requiring interactions that cannot be properly<br>4. Schedule no more than one Technician per vehicle even if this means mobilizing an unneeded vehicle to a site so that Technicians mob/demob solo.<br>5. Schedule Technicians to drive the same vehicles each day.<br>6. Avoid travel whenever feasible. Schedule Technicians on day trips form their local office even if this reduced onsite work efficiency<br>7. If overnight lodging is required, secure rooms at chains with in-house dining and better than average expected hygiene standards. | |

| Task | Hazards | Hazard Control Measures | PPE |
|---|---|---|---|
| **2. Working Around Others** | Working in close proximity with others presents an infection and transmittal hazard. | 1. Report/Stay Home If Symptomatic. Any employee who has symptoms of acute respiratory illness (fever, cough, shortness of breath) should contact their manager before coming into work and arrange to stay at home.<br>Any employee becoming symptomatic while at work should immediately Stop Work and contact their manager before returning to the office.<br>2. Report If Compromised. Any employee who feels that they might be considered medically compromised (older, heart disease, lung disease, diabetes, etc.) or who lives with someone who may be considered medically compromised should report to their manager.<br>3. Act Infected. Conduct yourself as if you are infected. Having this mindset as you move through your workday is vital to ensuring you will adhere to the directives listed below.<br>4. Respect Social Distancing Requirements. Keep a minimum of 6 foot separation between yourself and others. This applies to the office and the field.<br>5. In-person interactions with clients, members of the public and other employees should be kept to an absolute minimum and occur only as required for work related purposes.<br>6. If planned interactions are not as anticipated and do not appear to be controllable, STOP WORK, RETREAT to your vehicle and contact your manager. DO NOT enter occupied spaces where Social Distancing is not being demonstrated or is otherwise ineffective or unfeasible. | **Hi-Viz Vest**<br>**Safety Glasses** (or goggles)<br>**Nitrile Gloves**<br>**Hard Hat w/attached Face Shield** (optional) |

| Task | Hazards | Hazard Control Measures | PPE |
|---|---|---|---|
| **3. Manipulating Latches, Opening Doors, Moving Through Public Spaces** | Contact with any surface presents an infection and transmittal hazard. | 1. Technicians should don new Nitrile gloves at all times when outside of their vehicles including when meeting with Clients or entering businesses. No exceptions. | **Hi-Viz Vest**<br>**Safety Glasses** (or goggles)<br>**Nitrile Gloves** |
| **4. Handling Pool or Shared Equipment & Instruments** | Contact with equipment used by others presents an infection and transmittal hazard. | 1. Pool or shared equipment must be thoroughly disinfected and/or deconned by the user before handing to others or returning to the shelf.<br>2. Pool instruments and equipment should only be handled while wearing clean Nitrile gloves, especially when being returned to the shelf. | **Hi-Viz Vest**<br>**Safety Glasses** (or goggles)<br>**Nitrile Gloves** |
| **5. Entering Cab After Performing Work** | A contaminated cab is not safe to eat or drink in and presents an infection and transmittal hazard. | 1. Any impacted PPE, including gloves, should be removed and your hands washed with soap and water prior to entry into the cab. The cab must remain a contaminate free zone.<br>2. Wipe down the interior control surfaces (steering wheel, turn signal and transmission stalks, HVAC and radio controls, etc.) of trucks with disinfectant wipes at the end of each shift.<br>3. If a Technician is operating a vehicle that they did not operate the day prior, wipe down the interior control surfaces at the start of their shift. | **Hi-Viz Vest**<br>**Safety Glasses (or goggles)**<br>**Nitrile Gloves** |

| Task | Hazards | Hazard Control Measures | PPE |
|---|---|---|---|
| Describe in this space any **site-specific task** that was created for work at this site | Describe the identified **Hazards** | Describe the **Hazard Control Measures** | Note any essential **PPE** |
| Describe in this space any **site-specific task** that was created for work at this site | Describe the identified **Hazards** | Describe the **Hazard Control Measures** | Note any essential **PPE** |

| | |
|---|---|
| Work Type | Performance of Field Work During Coronavirus (COVID-19) Outbreak |
| JSA Type | Summary JSA |
| Organization | |

***My signature** below indicates that I have read this JSA; that I understand the hazards and safe work practices associated with the tasks; and that all requirements and conditions listed above have been met and verified prior to starting the work.*

**Name/Signature**________________________________________ **Date/Time**________________________

**Name/Signature**________________________________________ **Date/Time**________________________

**Name/Signature**________________________________________ **Date/Time**________________________

**Name/Signature**________________________________________ **Date/Time**________________________

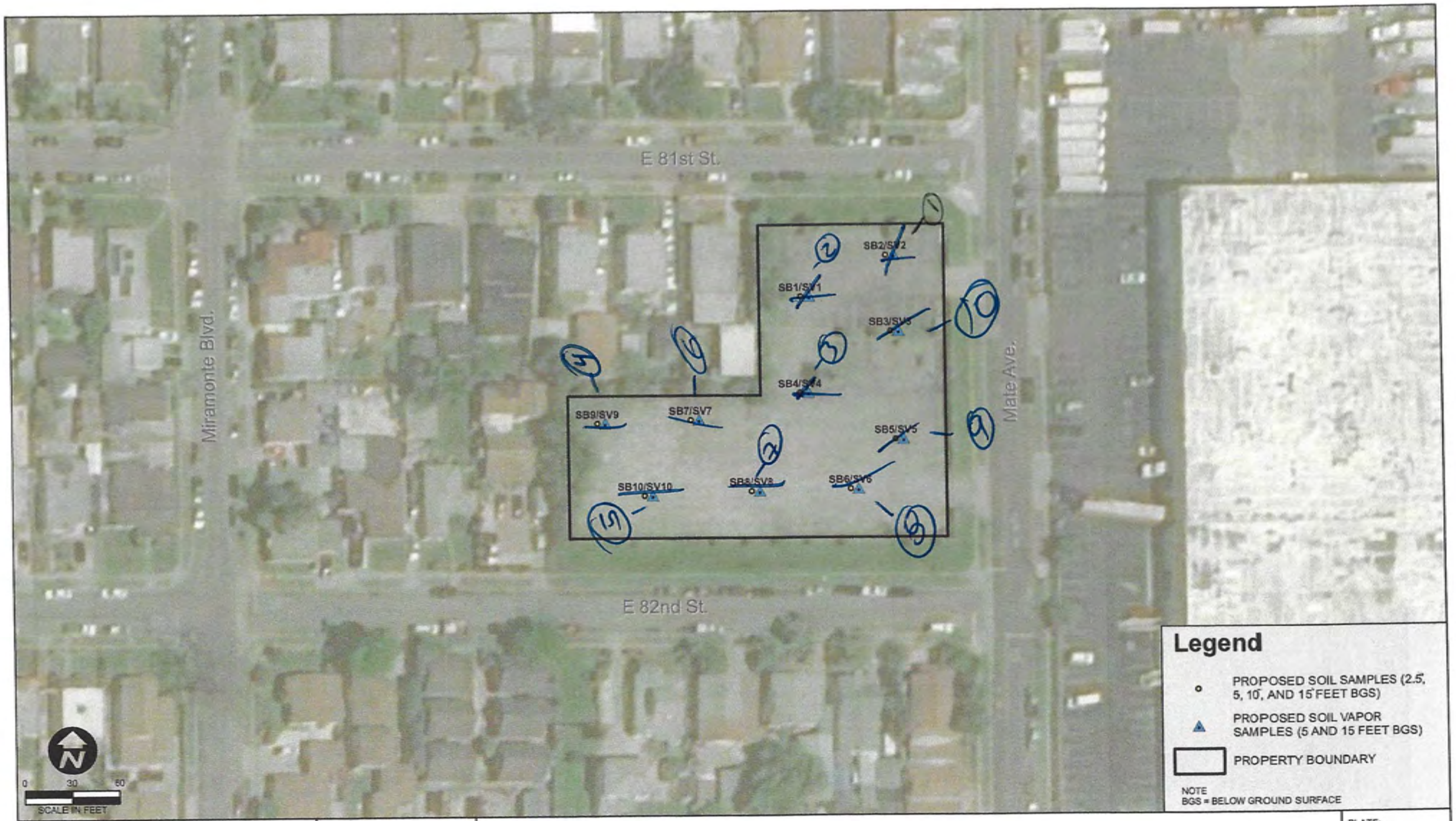
# Daily Debrief / Lessons Learned

Note what worked well.  Note what needs improvement.

| Date / Time | Name(s) | What went well? | What could use improvement? |
|---|---|---|---|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# *APPENDIX B*

- ① = order it was sampled.



| | | | |
|---|---|---|---|
| **HMC** HAZARD MANAGEMENT CONSULTING | DRAWN BY: CM<br>CHECKED BY: CS | **PROPOSED SAMPLING LOCATIONS** | PLATE: **2** |
| FILE NAME: FIGURE 2-PROPOSED SAMPLING LOCATIONS.MXD | DATE: FEBRUARY 2022 | 1628 EAST 81ST ST.<br>LOS ANGELES, CA, 90001 | |

EQUIPOISE
CORPORATION

## DAILY FIELD LOG

Project Name 81 st Los Angeles Project Number ______ Page 1 of ____

Site Location or Address 1628 81st Los Angeles Date 2/28/2022

Field Personnel Oscar Teller and BCZ

Scope of Work Soil Boring, soil sample, SV Installation.

| Time | Description of Activities |
|---|---|
| 0610 | Arrived on Site |
| | Explained BCZ the Scope of work |
| | Marked all 10 Locations |
| 0620 | Begin setting up equipment and supplies. |
| | First we will break the asphalt then at 7am |
| 0635 | we will begin to push. |
| 0700 | Began hand Auger at SV-2 |
| 0745 | Begin setting well box at SV-2 |
| | Red Probe = 15 ft |
| | Blue probe = 5 ft |
| 0840 | Talked to Valery about Lab carrier. Samples |
| | might be picked up today at ~2pm and tomorrow |
| | morning. |
| | |
| 1100 | Moved to SB-10 |
| 1135 | Took 15 min break. Went to get more Ice for |
| | Samples. |
| 1215 | Begin setting at SV-7 |
| 1355 | Lab pickup Soil Samples. |
| 1640 | Last sample collected. Driller begin setting probes at |
| | SV-3 |
| 1715 | Begin cleaning site |

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## Field Log of Boring: SV-1

Sheet 1 of 1

| | |
|---|---|
| **PROJECT NAME:** 81 St LA | **DRILLING CONTRACTOR:** BCL |
| **PROJECT NUMBER:** | **DRILLING EQUIPMENT:** |
| **LOGGER NAME:** Oscar Teller | **FIRST WATER (BGS):** |
| **DATE STARTED:** 2/28/22 | **BOREHOLE DIAMETER:** 2 1/4 |
| **DATE COMPLETED:** 2/28/22 | **DRILLING METHOD and SAMPLE DEVICE:** Direct push. |
| **SURFACE ELEVATION:** | **DRILLER & HELPER:** |

| DEPTH (FT BGS) | BLOWS | SAMPLE NO. AND INTERVAL | SAMPLE INTERVAL RECOVERY (%) | USCS | PID READINGS (ppm) | Lithologic Desciption and Order (SOIL TYPE in all caps and USCS classification abbreviation in parenthesis, Color, grain size of sand and gravel if present, density/consistency, moisture content, qualifiers) | WELL CONSTRUCTION (drawing) |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | Cored Asphalt – 6" | |
| 2 | | | | | | 6" – 5ft | |
| 3 | | | | SM | 0.9 | SILTY SAND, dark gray, Fine | |
| 4 | | | | | | grain sand, moist. | |
| 5 | | | | | | | |
| 6 | | | | SP | 0.4 | 5ft – 8.5ft Sand, poorly graded, grayish brown, ~~[illegible]~~ medium grain sand, | |
| 7 | | | 78 | | | | |
| 8 | | | | | | | |
| 9 | | | | SM | 0.7 | 8.5 – 12.5ft Silty Sand, dark gray, Fine to medium grain sand, moist. | |
| 10 | | | | | | | |
| 11 | | | | | | 12.5 – 15.5ft Same as above but | |
| 12 | | | 80 | SM | 1.7 | color changed to grayish brown and | |
| 13 | | | | | | sand become more fine. (no medium sand) | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | Total depth | |
| 8 | | | | | | 15.5ft | |
| 9 | | | | | | Probed at 15 and 5. | |
| 0 | | | | | | | |

Notes (backfill amounts, # of bags, well/probe construction details, water added, etc):

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## Field Log of Boring: SV-2

Sheet 1 of 1

| | | | |
|---|---|---|---|
| **PROJECT NAME:** | 91 st IA | **DRILLING CONTRACTOR:** | BCZ |
| **PROJECT NUMBER:** | | **DRILLING EQUIPMENT:** | |
| **LOGGER NAME:** | Oscar Teller | **FIRST WATER (BGS):** | |
| **DATE STARTED:** | 2/29/2022 | **BOREHOLE DIAMETER:** | 2 1/4 |
| **DATE COMPLETED:** | | **DRILLING METHOD and SAMPLE DEVICE:** | Direct Push and ~~split~~ 5ft Acetate sleeve |
| **SURFACE ELEVATION:** | | **DRILLER & HELPER:** | |

| DEPTH (FT BGS) | BLOWS | SAMPLE NO. AND INTERVAL | SAMPLE INTERVAL RECOVERY (%) | USCS | PID READINGS (ppm) | Lithologic Desciption and Order (SOIL TYPE in all caps and USCS classification abbreviation in parenthesis, Color, grain size of sand and gravel if present, density/consistency, moisture content, qualifiers) | WELL CONSTRUCTION (drawing) |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | Cored Asphalt.<br>Hand Augered to 5ft bgs. | |
| 2 | | | | | | 6" - 5ft Poorly graded Sand, grayish | |
| 3 | | | | SP | 0.4 | brown, Dry, Fine grain Sand, trace of silt. | |
| 4 | | | | | | | |
| 5 | | | | | | 5ft - 8ft Same as above | |
| 6 | | | | SP | 1.7 | but became ~~[illegible]~~ moist. | |
| 7 | | | 80 | | | | |
| 8 | | | | SP | 0.7 | 8ft - 10ft Sand with silt, grayish brown, moist, very fine to fine sand. | |
| 9 | | | | | | | |
| 10 | | | | | | 10-12ft Silty Sand, grayish brown, | |
| 1 | | | | SM | 0.7 | Dry to moist, Fine grained Sand. | |
| 2 | | | 100 | | | | |
| 3 | | | | SM | 1.8 | 12-15.5ft Silty Sand, grayish brown, moist, Fine grained Sand. | |
| 4 | | | | | | | |
| 15 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | Total depth 15.5ft | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Notes (backfill amounts, # of bags, well/probe construction details, water added, etc): Probes set at 5 and 15ft

EQUIPOISE CORPORATION

## Field Log of Boring: SV-3

Sheet 1 of

| | |
|---|---|
| **PROJECT NAME:** 81st LA | **DRILLING CONTRACTOR:** BCI |
| **PROJECT NUMBER:** | **DRILLING EQUIPMENT:** |
| **LOGGER NAME:** Oscar Tello | **FIRST WATER (BGS):** |
| **DATE STARTED:** 2/28/22 | **BOREHOLE DIAMETER:** 2 1/4 |
| **DATE COMPLETED:** 2/28/22 | **DRILLING METHOD and SAMPLE DEVICE:** DP |
| **SURFACE ELEVATION:** | **DRILLER & HELPER:** |

| DEPTH (FT BGS) | BLOWS | SAMPLE NO. AND INTERVAL | | SAMPLE INTERVAL RECOVERY (%) | USCS | PID READINGS (ppm) | Lithologic Desciption and Order<br>(SOIL TYPE in all caps and USCS classification abbreviation in parenthesis, Color, grain size of sand and gravel if present, density/consistency, moisture content, qualifiers) | WELL CONSTRUCTION (drawing) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Cored asphalt -8" | |
| 2 | | | | | | | | |
| 3 | | | | | SP | 1.1 | 8" - 4ft Poorly graded SAND with trace of silt, grayish brown, Dry. | |
| 4 | | | | | | | | |
| 5 | | | | | SM | 0.7 | 4ft - 7ft Silty Sand, Dark grayish brown, moist, very to fine grained sand | |
| 6 | | | | | | | trace of oxidation. | |
| 7 | | | | | SM | 0.7 | 7ft - 10ft SAND with silts, ~~3~~ grayish brown, Fine grained sand, Rapid Dilatancy | |
| 8 | | | 60 | | | | | |
| 9 | | | | | | | | |
| 0 | | | | | | | 10ft - 11ft poorly graded sand, grayish brown. | |
| 1 | | | | | SP<br>SM | 0.8<br>1.1 | Fine grained Sand,<br>11ft - ~~15ft~~ 15.5ft Silty Sand, | |
| 2 | | | 100 | | | | grayish brown, Dry to moist, Very Fine to fine sand, ~~[illegible]~~ trace of clay at | |
| 3 | | | | | | | 12ft, Rapid Dilatancy. | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | TD -> ~~15ft~~ 15.5ft | |
| 8 | | | | | | | SVP at 15ft and 5 | |
| 9 | | | | | | | | |
| 0 | | | | | | | | |

Notes (backfill amounts, # of bags, well/probe construction details, water added, etc):

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CORPORATION

**Field Log of Boring:** SV-4

Sheet 1 of 1

| | |
|---|---|
| **PROJECT NAME:** 81st LA | **DRILLING CONTRACTOR:** BCL |
| **PROJECT NUMBER:** | **DRILLING EQUIPMENT:** |
| **LOGGER NAME:** Oscar Teller | **FIRST WATER (BGS):** |
| **DATE STARTED:** 2/28/22 | **BOREHOLE DIAMETER:** 2 1/4 |
| **DATE COMPLETED:** 2/28/22 | **DRILLING METHOD and SAMPLE DEVICE:** Direct push |
| **SURFACE ELEVATION:** | **DRILLER & HELPER:** |

| DEPTH (FT BGS) | BLOWS | SAMPLE NO. AND INTERVAL | | SAMPLE INTERVAL RECOVERY (%) | USCS | PID READINGS (ppm) | **Lithologic Desciption and Order**<br>(SOIL TYPE in all caps and USCS classification abbreviation in parenthesis, Color, grain size of sand and gravel if present, density/consistency, moisture content, qualifiers) | WELL CONSTRUCTION (drawing) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Cored asphalt ~ 8" | |
| 2 | | | | | | | 8" – 5ft | |
| 3 | | | | | SM | 1.8 | SILTY SAND, Dark grayish brown, Dry | |
| 4 | | | | | | | to moist, very fine to fine sand. | |
| 5 | | | | | | | | |
| 6 | | | | | SP | 2.4 | 5ft – 8ft Poorly graded sand, yellow brown, fine grained sand, Dry, | |
| 7 | | | 70 | | | | trace of oxidation at 7ft | |
| 8 | | | | | SM | 1.1 | 8–10ft Silty SAND, Dark gray, moist, | |
| 9 | | | | | | | very fine grained sand. | |
| 10 | | | | | | | | |
| 1 | | | | | SM | 1.0 | 10–12ft Same as above but silt content increase. and color changed | |
| 2 | | | 100 | | | | to grayish brown. | |
| 3 | | | | | | | 12ft – 15ft Poorly graded sand, | |
| 4 | | | | | SP | | Yellow brown, Dry to moist, Fine | |
| 15 | | | | | | | grained SAND, trace of oxidation at 13ft. | |
| 6 | | | | | | | | |
| 7 | | | | | | | Total depth 15.5ft | |
| 8 | | | | | | | | |
| 9 | | | | | | | SVP at 15 and 5 | |
| 0 | | | | | | | | |

Notes (backfill amounts, # of bags, well/probe construction details, water added, etc):

EQUIPOISE CORPORATION

## Field Log of Boring: SV-5

Sheet 1 of 1

| | |
|---|---|
| **PROJECT NAME:** 81st LA | **DRILLING CONTRACTOR:** BCL |
| **PROJECT NUMBER:** | **DRILLING EQUIPMENT:** |
| **LOGGER NAME:** Oscar T | **FIRST WATER (BGS):** |
| **DATE STARTED:** 2/28/22 | **BOREHOLE DIAMETER:** 2 1/4 |
| **DATE COMPLETED:** 2/28/22 | **DRILLING METHOD and SAMPLE DEVICE:** DP |
| **SURFACE ELEVATION:** | **DRILLER & HELPER:** |

| DEPTH (FT BGS) | BLOWS | SAMPLE NO. AND INTERVAL | SAMPLE INTERVAL RECOVERY (%) | USCS | PID READINGS (ppm) | Lithologic Desciption and Order<br>(SOIL TYPE in all caps and USCS classification abbreviation in parenthesis, Color, grain size of sand and gravel if present, density/consistency, moisture content, qualifiers) | WELL CONSTRUCTION (drawing) |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | Cored asphalt ~6" | |
| 2 | | | | | | | |
| 3 | | | | ML | 1.8 | 6"-2ft SANDY SILT, Very Dark brown, moist, Fine grained sand, | |
| 4 | | | | SM | 0.7 | 2-5ft SILTY SAND, Dark grayish brown, moist, Very to Fine grain sand, Rapid | |
| 5 | | | | | | Dilatancy. | |
| 6 | | | | | | | |
| 7 | | | | SM | 0.7 | 5-9ft Same as above | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | ML | 1.7 | 9ft-12ft SILT, trace of Fine sand, Dark grayish brown, moist, Rapid Dilatancy. | |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | SM | 1.9 | 12ft-15.5ft SAND with Silt, grayish brown, Dry, Fine to medium SAND. | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | TD - 15.5 | |
| 8 | | | | | | SVP at 15 and 5 | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Notes (backfill amounts, # of bags, well/probe construction details, water added, etc):

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## Field Log of Boring: SV-6

Sheet of

| | |
|---|---|
| **PROJECT NAME:** BISJ LA | **DRILLING CONTRACTOR:** BCL |
| **PROJECT NUMBER:** | **DRILLING EQUIPMENT:** |
| **LOGGER NAME:** Oscar Teller | **FIRST WATER (BGS):** |
| **DATE STARTED:** 2/28/22 | **BOREHOLE DIAMETER:** 2 1/4 |
| **DATE COMPLETED:** 2/28/22 | **DRILLING METHOD and SAMPLE DEVICE:** DP |
| **SURFACE ELEVATION:** | **DRILLER & HELPER:** |

| DEPTH (FT BGS) | BLOWS | SAMPLE NO. AND INTERVAL | SAMPLE INTERVAL RECOVERY (%) | USCS | PID READINGS (ppm) | Lithologic Desciption and Order<br>(SOIL TYPE in all caps and USCS classification abbreviation in parenthesis, Color, grain size of sand and gravel if present, density/consistency, moisture content, qualifiers) | WELL CONSTRUCTION (drawing) |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | Cored asphalt ~ 6" | |
| 2 | | | | | | 6" - 4ft SILTY SAND, Dark gray in | |
| 3 | | | | SM | 4.7 | brown moist, fine grain sand, | |
| 4 | | | | | | Broken brick debris, some gravel at 2 ft. | |
| 5 | | | | SM | 1.1 | 4ft - 8ft SAND with silt, gray in | |
| 6 | | | | | | brown, moist, fine grained sand, | |
| 7 | | | | | | Rapid Dilatancy | |
| 8 | | | | | | | |
| 9 | | | | SM | 0.7 | 8 ft - 10 ft Same as above | |
| 0 | | | | | | 10-15.0ft SILTY SAND, Dark gray in | |
| 1 | | | | SM | 1.1 | brown, Dry, fine to medium grain sand, | |
| 2 | | | | | | trace of clay ~ 12ft. | |
| 3 | | | | | 04 | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | TD 15.0ft | |
| 7 | | | | | | SVP at 15 and 5ft | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Notes (backfill amounts, # of bags, well/probe construction details, water added, etc):

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CORPORATION

**Field Log of Boring:** SV-7 Sheet 1 of 1

| | | | |
|---|---|---|---|
| **PROJECT NAME:** | 81st LA | **DRILLING CONTRACTOR:** | B C2 |
| **PROJECT NUMBER:** | | **DRILLING EQUIPMENT:** | |
| **LOGGER NAME:** | Oscar J | **FIRST WATER (BGS):** | |
| **DATE STARTED:** | 2/28/2022 | **BOREHOLE DIAMETER:** | 2 1/4 |
| **DATE COMPLETED:** | 2/28/2022 | **DRILLING METHOD and SAMPLE DEVICE:** | DP |
| **SURFACE ELEVATION:** | | **DRILLER & HELPER:** | |

| DEPTH (FT BGS) | BLOWS | SAMPLE NO. AND INTERVAL | | SAMPLE INTERVAL RECOVERY (%) | USCS | PID READINGS (ppm) | Lithologic Desciption and Order<br>(SOIL TYPE in all caps and USCS classification abbreviation in parenthesis, Color, grain size of sand and gravel if present, density/consistency, moisture content, qualifiers) | WELL CONSTRUCTION (drawing) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Cored Asphalt ~ 8" | |
| 2 | | | | | ML | 1.7 | 8"-5 ft ~~Cord~~ a SILT with trace of sand | |
| 3 | | | | | | | (medium grain Sand), Dark grayish brown, | |
| 4 | | | | | | | moist. | |
| 5 | | | | | ML | 0.7 | 5Feet-6ft same as above. | |
| 6 | | | | | SP | 0.7 | 6ft – 7.5ft poorly graded sand, grayish brown Dry to moist, Fine grained sand, | |
| 7 | | | | | | | Rapid Dilatancy. | |
| 8 | | | 100 | | | | | |
| 9 | | | | | ML | 1.1 | 7.5ft -12ft ~~SILTY SAND~~ SANDY SILT-, Dark grayish brown (7.5-10ft) and gray (10-12ft), Fine grained | |
| 10 | | | | | | | Sand with trace of medium sand, Dry. Trace of clay at 11ft - 12ft. | |
| 1 | | | | | SM | 1.8 | 12ft - 15.5ft SAND with trace of silt, grayish brown moist, Fine to medium sand, | |
| 2 | | | 100 | | | | Rapid Dilatancy. | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 15 | | | | | | | | |
| 6 | | | | | | | TD 15.5ft | |
| 7 | | | | | | | SVP - at 15 and 5. | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 0 | | | | | | | | |

Notes (backfill amounts, # of bags, well/probe construction details, water added, etc):

EQUIPOISE CORPORATION

**Field Log of Boring:** SV-8

Sheet 1 of 1

| | |
|---|---|
| **PROJECT NAME:** 8107 LA | **DRILLING CONTRACTOR:** BCZ |
| **PROJECT NUMBER:** | **DRILLING EQUIPMENT:** |
| **LOGGER NAME:** Ostertella | **FIRST WATER (BGS):** |
| **DATE STARTED:** 2/28/22 | **BOREHOLE DIAMETER:** 2 1/4 |
| **DATE COMPLETED:** 2/28/22 | **DRILLING METHOD and SAMPLE DEVICE:** DP. |
| **SURFACE ELEVATION:** | **DRILLER & HELPER:** |

| DEPTH (FT BGS) | BLOWS | SAMPLE NO. AND INTERVAL | SAMPLE INTERVAL RECOVERY (%) | USCS | PID READINGS (ppm) | Lithologic Desciption and Order<br>(SOIL TYPE in all caps and USCS classification abbreviation in parenthesis, Color, grain size of sand and gravel if present, density/consistency, moisture content, qualifiers) | WELL CONSTRUCTION (drawing) |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | Cord asphalt 6" | |
| 2 | | | | | | | |
| 3 | | | | SM | 1.7 | 6"-5ft Silty Sand, grayish brown, moist, Fine to medium grained Sand, Rapid Dilatancy. | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | X | | SM | 1.1 | 5ft-7ft Silty Sand, grayish brown, Dry to moist, Fine grained Sand, trace of clay ~6.5ft. | |
| 7 | | | | | | | |
| 8 | | | 70 | | | | |
| 9 | | | | Sm | 0.1 | 7-10ft Same as above, but more. In SLT | |
| 0 | | | | | | | |
| 1 | | X | | ML | 0.7 | 10-12ft SILT with SAND, Dark grayish brown, Dry to moist, very Fine grained SAND, | |
| 2 | | | 90 | | | | |
| 3 | | | | Sm | 1.1 | 12-15.0ft SILTY SAND grayish brown, moist, Fine grained sand, some medium sand at 14ft, Rapid Dilatancy. | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | TD 15.5ft | |
| 8 | | | | | | Svp at 15 and 5. | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Notes (backfill amounts, # of bags, well/probe construction details, water added, etc):

CORPORATION

## Field Log of Boring: SV-9

Sheet 1 of 1

| | | | |
|---|---|---|---|
| **PROJECT NAME:** 8157 I A | | **DRILLING CONTRACTOR:** | BCE |
| **PROJECT NUMBER:** | | **DRILLING EQUIPMENT:** | |
| **LOGGER NAME:** O Scattella | | **FIRST WATER (BGS):** | |
| **DATE STARTED:** 2/28/22 | | **BOREHOLE DIAMETER:** | 2 1/4 |
| **DATE COMPLETED:** 2/28/22 | | **DRILLING METHOD and SAMPLE DEVICE:** | DP. |
| **SURFACE ELEVATION:** | | **DRILLER & HELPER:** | |

| DEPTH (FT BGS) | BLOWS | SAMPLE NO. AND INTERVAL | | SAMPLE INTERVAL RECOVERY (%) | USCS | PID READINGS (ppm) | Lithologic Desciption and Order (SOIL TYPE in all caps and USCS classification abbreviation in parenthesis, Color, grain size of sand and gravel if present, density/consistency, moisture content, qualifiers) | WELL CONSTRUCTION (drawing) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Cored asphalt ~ 8" | |
| 2 | | | | | | | | |
| 3 | | | | | ML | 4.8 | SILT with trace of fine sand, Dark grayish brown, moist. | |
| 4 | | | | | | | | |
| 5 | | | | | ML | 1.7 | 5ft – 6.5ft same as above. | |
| 6 | | | | | | | | |
| 7 | | | | | SM | 0.8 | 6.5 – 10ft Silty SAND, grayish brown, very fine ~~Sand~~ SAND, moist, Rapid Dilatancy. | |
| 8 | | | 100 | | | | | |
| 9 | | | | | | | | |
| 0 | | | | | SM | 1.7 | 10ft – 13ft Silty sand, Dark yellow brown, moist, fine to medium sand, Rapid Dilatancy. | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | 80 | | SM | 1.1 | 13 – 15.5ft same as above, but color changed to ~~Dark~~ grayish brown. | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | TD 15.5ft | |
| 8 | | | | | | | | |
| 9 | | | | | | | SVP at 15 and 5. | |
| 0 | | | | | | | | |

Notes (backfill amounts, # of bags, well/probe construction details, water added, etc):

EQUIPOISE
CORPORATION

## Field Log of Boring: SV-10

Sheet 1 of 1

| | |
|---|---|
| PROJECT NAME: 81st LA | DRILLING CONTRACTOR: BC2 |
| PROJECT NUMBER: | DRILLING EQUIPMENT: |
| LOGGER NAME: Oscar Jeller | FIRST WATER (BGS): |
| DATE STARTED: 2/28/22 | BOREHOLE DIAMETER: 2in |
| DATE COMPLETED: 2/28/22 | DRILLING METHOD and SAMPLE DEVICE: DP |
| SURFACE ELEVATION: | DRILLER & HELPER: |

| DEPTH (FT BGS) | BLOWS | SAMPLE NO. AND INTERVAL | | SAMPLE INTERVAL RECOVERY (%) | USCS | PID READINGS (ppm) | Lithologic Desciption and Order<br>(SOIL TYPE in all caps and USCS classification abbreviation in parenthesis, Color, grain size of sand and gravel if present, density/consistency, moisture content, qualifiers) | WELL CONSTRUCTION (drawing) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Cored asphalt ~6" | |
| 2 | | | | | SM | 0.1 | 6" - 4ft SILTY Sand, Dark grayish brown, fine grain sand, moist trace of gravel at 2ft. | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | SM | 1.8 | 4ft - 7ft SAND with silt, grayish brown, Dry to moist, very to fine grain sand, Rapid Dilatancy. | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | 90 | SM | 0.7 | 7-10ft same as above | |
| 9 | | | | | | | | |
| 0 | | | | | ML | 4.1 | 10 - 12ft SANDY SILT, Dark grayish brown, moist, very fine sand, trace of oxidation, Rapid Dilatancy. | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | 100 | SM | | 12 - 15.5ft SILTY SAND, grayish brown, moist, fine grain sand. | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | Total depth 15.5ft | |
| 8 | | | | | | | SVP at 15 and 5. | |
| 9 | | | | | | | | |
| 0 | | | | | | | | |

Notes (backfill amounts, # of bags, well/probe construction details, water added, etc):

TELEPHONE (714) 744-2990 BC2 ENVIRONMENTAL DRILLER'S DAILY REPORT FAX: (714) 744-2991
WWW.BC2ENV.COM

Client: EQUIPOISE
Date: 2-28-, 20 22
Drilling Location: 1628 E. 81st STREET LOS ANGELES
Job No. 22-28180

| EMPLOYEE'S NAME: | Total Hours | EQUIPMENT UTILIZED | | | |
|---|---|---|---|---|---|
| FIELD SUPER | | RIG TYPE & NO. DP | 2 | BOBCAT/FORKLIFT | |
| DRILLER/OPER. Eliud E | | FLATBED TRUCK | | CONCRETE SAW/CORE # OF HOLES | |
| HELPER Ayden C | | DECON TRAILER | | ASPHALT SAW/CORE 10" # OF HOLES | 10 |
| HELPER | | GROUT PUMP/WHIRLY BIRD | | DEVELOPMENT RIG | |
| DRILLER/OPER | | COMPRESSOR/AIR EXC. TOOL | | GENERATOR | |
| HELPER | | HYDRO PUNCH # OF HOLES | | WATER TRAILER | |
| HELPER | | CONTINUOUS SAMPLER | | OTHER: | |

**DAILY ACTIVITY**

| ITEM# DESCRIPTION | Hours |
|---|---|
| 1. Travel to site/MOB | 1.0 |
| 2. Travel from site/DEMOB | 1.0 |
| 3. Set up equip. & P.M. logs | |
| 4. Drilling (hammer) | |
| 5. Drilling (rotary) | |
| 6. Drilling (auger) | |
| 7. Drilling (coring) | |
| 8. Sampling | |
| 9. Pull out pipe | |
| 10. Abandon hole | |
| 11. Water testing | |
| 12. Cleanout hole/condition | |
| 13. Well construction | |
| 14. Move between holes | |
| 15. Decontamination | |
| 16. Site clean up | |
| 17. Standby with crew | |
| 18. Standby without crew | |
| 19. Development | |
| 20. Surface completion | |
| 21. Scheduled maint. & repair | |
| 22. Unscheduled repairs | |
| 23. Project prep. (load-up/unload) | |
| 24. Yard time (sched/unsched.) | |
| 25. Health & Safety Mtg. | |
| 26. Engine Hours Start | |
| 27. Engine Hours End | |
| 28. Est. Gallons Fuel/Day | |
| | |
| Total Hours | |

| HOLE # | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PREVIOUS FOOTAGE DRILLED | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| FOOTAGE DRILLED THIS DATE | | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | | |
| SAMPLES TAKEN THIS DATE | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| SURFACE CASING | FROM | [illegible] | — | — | — | — | — | — | — | — | — | | |
| | TO | [illegible] | — | — | — | — | — | — | — | — | — | | |
| PROTECTIVE CASING | FROM | [illegible] | | | | | | | | | | | |
| | TO | [illegible] | | | | | | | | | | | |
| CEMENT SEAL | FROM | [illegible] | — | — | — | — | — | — | — | — | — | | |
| | TO | [illegible] | — | — | — | — | — | — | — | — | — | | |
| BENT SEAL | FROM | [illegible] | | | | | | | | | | | |
| | TO | [illegible] | — | — | — | — | — | — | — | — | — | | |
| SAND PACK | FROM | [illegible] | | | | | | | | | | | |
| | TO | [illegible] | | | | | | | | | | | |
| BLANK CASING | FROM | [illegible] | 15 | 15 | [illegible] | [illegible] | 15 | [illegible] | 15 | 15 | [illegible] | | |
| | TO | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| SCREEN | FROM | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| | TO | | | | | | | | | | | | |
| WATER LEVEL | | | | | | | | | | | | | |

FORMATION DESCRIPTIONS

| MATERIALS & SUPPLIES | |
|---|---|
| QTY. | DESCRIPTION PVC/SS/STL |
| | 4" BLANK |
| | 4" SCREEN |
| | 2" BLANK |
| | 2" SCREEN |
| | 4" SLIP CAP/LOCKING CAP |
| | 2" SLIP CAP/LOCKING CAP |
| | CENTRALIZER |
| 3 | SAND 50lb / 100lb 4/10 |
| / | SILICA SAND |
| / | BENTONITE PELLETS |
| 4 | BENTONITE FRAGMENTS |
| / | VOLCLAY GROUT |
| 1 | BENTONITE POWDER (GEL) |
| 3 | READY MIX |
| 2 | QUICK SET |
| 3 | PORTLAND 47lb / 94lb |
| / | ASPHALT PATCH |
| 10 | WELL COVERS 8"/12" |
| | MONUMENT CASING |
| 1 | BARRELS |
| | WOOD PLUGS |
| | SAMPLE RINGS |
| | PLASTIC SHEETING |
| 30 | DT 22 A.L |
| 20 | 3/8 X 6" S.S PROBES |
| 20 | 3 WAY VALVES |
| ✓ | NYLAFLOW |

COMMENTS

CREW ARRIVAL TIME: 6:30AM DEPARTURE TIME: 5:00PM
CLIENT SIGNATURE:
PRINT NAME:

DRILLER'S SUMMARY ON SITE 6:30 AM SAFETY MEETING, ASPHALT CORE 10" TEN LOCATIONS HAND AUGER ALL TO 5 FT THEN PUSHED TO 15.5 CONTINUOUS SOIL SAMPLES, THEN SET DUAL 3/8"X6" S.S. VAPOR PROBES SET IT AT 15' & 5' FT USING PORTLAND BETWEEN HOLES THEN SET 10 - 8" WELL BOXES IN

# *APPENDIX C*

eurofins | Environment Testing America

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# ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-86255-1
Client Project/Site: HMC - 1628 81st St., Los Angeles
Revision: 1

For:
Equipoise Corporation
1311 Calle Batido
Suite 250
San Clemente, California 92673

Attn: Valery Naskrent

Cecile L. de Guia

*Authorized for release by:*
*3/4/2022 4:24:17 PM*

Cecile de Guia, Project Manager I
(714)895-5494
Cecile.deGuia@eurofinset.com

LINKS

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Visit us at:
www.eurofinsus.com/Env

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Table of Contents

# Definitions/Glossary

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job ID: 570-86255-1

## Qualifiers

### Air - GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| *+ | LCS and/or LCSD is outside acceptance limits, high biased. |
| me | LCS Recovery is within Marginal Exdeedance (ME) control limit range (± 4 SD from the mean). |
| S1+ | Surrogate recovery exceeds control limits, high biased. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

# Case Narrative

## Job ID: 570-86255-1

### Laboratory: Eurofins Calscience

**Narrative**

**Job Narrative**
**570-86255-1**

**Comments**
No additional comments.

**Revision**
The report being provided is a revision of the original report sent on 3/3/2022. The report (revision 1) is being revised due to: Client had requested to report sample results in ug/L instead. Original report had the units in ppb v/v.

**Receipt**
The samples were received on 3/1/2022 1:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 22.0º C.

**Receipt Exceptions**

The can ID for the following sample did not match the information listed on the Chain-of-Custody (COC) : SV5-15 (570-86255-10), the can lists LC1235, while the COC lists LC1245. Sample collection date and time matched the COC.

**Air Toxics**
Method TO-15: The following analyte(s) recovered outside control limits for the LCS/LCSD associated with analytical batch 570-216579: Carbon disulfide. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method TO-15: Surrogate Toluene-d8 (Surr) recovery for the following samples were outside control limits: SV9-5 (570-86255-17), SV9-15 (570-86255-18), SV10-5 (570-86255-19) and SV10-15 (570-86255-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job ID: 570-86255-1

## Client Sample ID: SV1-5

## Lab Sample ID: 570-86255-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.030 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| Isopropanol | 0.016 | | 0.012 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.0037 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0048 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV1-15

## Lab Sample ID: 570-86255-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.023 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0054 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| 1,1-Difluoroethane | 0.0098 | | 0.0054 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.0065 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0035 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV2-5

## Lab Sample ID: 570-86255-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.027 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| Chloroform | 0.0051 | | 0.0024 | | ug/L | 1 | | TO-15 | Total/NA |
| 1,1-Difluoroethane | 0.0054 | | 0.0054 | | ug/L | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.0030 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.0049 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.059 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV2-15

## Lab Sample ID: 570-86255-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.024 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0045 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.0028 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.0089 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.081 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV3-5

## Lab Sample ID: 570-86255-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.038 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| Benzene | 0.0022 | | 0.0016 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0056 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.0022 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.0028 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.0083 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.10 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV3-15

## Lab Sample ID: 570-86255-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.033 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.0038 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV4-5

## Lab Sample ID: 570-86255-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.038 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

## Client Sample ID: SV4-5 (Continued) Lab Sample ID: 570-86255-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 2-Butanone | 0.0052 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.0039 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| 4-Ethyltoluene | 0.0057 | | 0.0025 | | ug/L | 1 | | TO-15 | Total/NA |
| m,p-Xylene | 0.020 | | 0.0087 | | ug/L | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.0083 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.0057 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0087 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.020 | | 0.0074 | | ug/L | 1 | | TO-15 | Total/NA |
| 1,3,5-Trimethylbenzene | 0.0088 | | 0.0025 | | ug/L | 1 | | TO-15 | Total/NA |
| Xylenes, Total | 0.028 | | 0.011 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV4-15 Lab Sample ID: 570-86255-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.037 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0076 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.0042 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| 4-Ethyltoluene | 0.0075 | | 0.0025 | | ug/L | 1 | | TO-15 | Total/NA |
| m,p-Xylene | 0.022 | | 0.0087 | | ug/L | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.011 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.011 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0094 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.034 | | 0.0074 | | ug/L | 1 | | TO-15 | Total/NA |
| 1,3,5-Trimethylbenzene | 0.014 | | 0.0025 | | ug/L | 1 | | TO-15 | Total/NA |
| Xylenes, Total | 0.033 | | 0.011 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV5-5 Lab Sample ID: 570-86255-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.033 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.0034 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0039 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV5-15 Lab Sample ID: 570-86255-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.029 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0060 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.013 | | 0.0013 | | ug/L | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.0030 | | 0.0010 | | ug/L | 1 | | TO-15 | Total/NA |
| 4-Methyl-2-pentanone | 0.030 | | 0.0061 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.011 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0031 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV6-5 Lab Sample ID: 570-86255-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.051 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.017 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.0073 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| 4-Methyl-2-pentanone | 0.0069 | | 0.0061 | | ug/L | 1 | | TO-15 | Total/NA |
| m,p-Xylene | 0.031 | | 0.0087 | | ug/L | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.0091 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Equipoise Corporation
Job ID: 570-86255-1
Project/Site: HMC - 1628 81st St., Los Angeles

## Client Sample ID: SV6-5 (Continued) — Lab Sample ID: 570-86255-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 0.0086 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.010 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |
| Xylenes, Total | 0.040 | | 0.011 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV6-15 — Lab Sample ID: 570-86255-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.039 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0075 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.017 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0040 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV7-5 — Lab Sample ID: 570-86255-13

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.027 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0044 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.011 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0050 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV7-15 — Lab Sample ID: 570-86255-14

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.037 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0077 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.019 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0096 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV8-5 — Lab Sample ID: 570-86255-15

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.033 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0046 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.011 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0046 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV8-15 — Lab Sample ID: 570-86255-16

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.036 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0066 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.018 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0056 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV9-5 — Lab Sample ID: 570-86255-17

No Detections.

## Client Sample ID: SV9-15 — Lab Sample ID: 570-86255-18

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.052 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0058 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.024 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.012 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Equipoise Corporation
Job ID: 570-86255-1
Project/Site: HMC - 1628 81st St., Los Angeles

## Client Sample ID: SV10-5
## Lab Sample ID: 570-86255-19

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.026 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.0026 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.015 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0043 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: SV10-15
## Lab Sample ID: 570-86255-20

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.031 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0070 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.026 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0059 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: DUP-1
## Lab Sample ID: 570-86255-21

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.027 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.0022 | | 0.0022 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.013 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0041 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

## Client Sample ID: DUP-2
## Lab Sample ID: 570-86255-22

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.032 | | 0.0048 | | ug/L | 1 | | TO-15 | Total/NA |
| 2-Butanone | 0.0060 | | 0.0044 | | ug/L | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.0069 | | 0.0034 | | ug/L | 1 | | TO-15 | Total/NA |
| Toluene | 0.0019 | | 0.0019 | | ug/L | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Equipoise Corporation
Job ID: 570-86255-1
Project/Site: HMC - 1628 81st St., Los Angeles

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: SV1-5**
**Date Collected: 03/01/22 08:33**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

**Lab Sample ID: 570-86255-1**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.030** | | 0.0048 | | ug/L | | | 03/02/22 13:11 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/02/22 13:11 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/02/22 13:11 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/02/22 13:11 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/02/22 13:11 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/02/22 13:11 | 1 |
| 2-Butanone | ND | | 0.0044 | | ug/L | | | 03/02/22 13:11 | 1 |
| Carbon disulfide | ND | *+ | 0.0062 | | ug/L | | | 03/02/22 13:11 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/02/22 13:11 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/02/22 13:11 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/02/22 13:11 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/02/22 13:11 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/02/22 13:11 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 13:11 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/02/22 13:11 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 13:11 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/02/22 13:11 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/02/22 13:11 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/02/22 13:11 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/02/22 13:11 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/02/22 13:11 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/02/22 13:11 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/02/22 13:11 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/02/22 13:11 | 1 |
| **Isopropanol** | **0.016** | | 0.012 | | ug/L | | | 03/02/22 13:11 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/02/22 13:11 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/02/22 13:11 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/02/22 13:11 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/02/22 13:11 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/02/22 13:11 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 13:11 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/02/22 13:11 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 13:11 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/02/22 13:11 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/02/22 13:11 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/02/22 13:11 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/02/22 13:11 | 1 |

# Client Sample Results

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

### Client Sample ID: SV1-5
**Lab Sample ID: 570-86255-1**
**Date Collected: 03/01/22 08:33**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **0.0037** | | 0.0034 | | ug/L | | | 03/02/22 13:11 | 1 |
| **Toluene** | **0.0048** | | 0.0019 | | ug/L | | | 03/02/22 13:11 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 13:11 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 13:11 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/02/22 13:11 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/02/22 13:11 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/02/22 13:11 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/02/22 13:11 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/02/22 13:11 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/02/22 13:11 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *114* | | *70 - 130* | | *03/02/22 13:11* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *66 - 132* | | *03/02/22 13:11* | *1* |
| *Toluene-d8 (Surr)* | *124* | | *70 - 130* | | *03/02/22 13:11* | *1* |

### Client Sample ID: SV1-15
**Lab Sample ID: 570-86255-2**
**Date Collected: 03/01/22 08:42**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.023** | | 0.0048 | | ug/L | | | 03/02/22 14:13 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/02/22 14:13 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/02/22 14:13 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/02/22 14:13 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/02/22 14:13 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/02/22 14:13 | 1 |
| **2-Butanone** | **0.0054** | | 0.0044 | | ug/L | | | 03/02/22 14:13 | 1 |
| Carbon disulfide | ND | *+ | 0.0062 | | ug/L | | | 03/02/22 14:13 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/02/22 14:13 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/02/22 14:13 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/02/22 14:13 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/02/22 14:13 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/02/22 14:13 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 14:13 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/02/22 14:13 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 14:13 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 14:13 | 1 |

# Client Sample Results

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV1-15**
**Lab Sample ID: 570-86255-2**
**Date Collected: 03/01/22 08:42**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/02/22 14:13 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/02/22 14:13 | 1 |
| **1,1-Difluoroethane** | **0.0098** | | 0.0054 | | ug/L | | | 03/02/22 14:13 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/02/22 14:13 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/02/22 14:13 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/02/22 14:13 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/02/22 14:13 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/02/22 14:13 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/02/22 14:13 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/02/22 14:13 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/02/22 14:13 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/02/22 14:13 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/02/22 14:13 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/02/22 14:13 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/02/22 14:13 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 14:13 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/02/22 14:13 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 14:13 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/02/22 14:13 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/02/22 14:13 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/02/22 14:13 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/02/22 14:13 | 1 |
| **Tetrachloroethene** | **0.0065** | | 0.0034 | | ug/L | | | 03/02/22 14:13 | 1 |
| **Toluene** | **0.0035** | | 0.0019 | | ug/L | | | 03/02/22 14:13 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 14:13 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 14:13 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/02/22 14:13 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/02/22 14:13 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/02/22 14:13 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/02/22 14:13 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/02/22 14:13 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/02/22 14:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *113* | | *70 - 130* | | *03/02/22 14:13* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *66 - 132* | | *03/02/22 14:13* | *1* |
| *Toluene-d8 (Surr)* | *123* | | *70 - 130* | | *03/02/22 14:13* | *1* |

# Client Sample Results

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: SV2-5**
**Date Collected: 03/01/22 08:23**
**Date Received: 03/01/22 13:35**
**Sample Container:  Summa Canister 1L**

**Lab Sample ID: 570-86255-3**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.027** | | 0.0048 | | ug/L | | | 03/02/22 15:05 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/02/22 15:05 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/02/22 15:05 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/02/22 15:05 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/02/22 15:05 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/02/22 15:05 | 1 |
| 2-Butanone | ND | | 0.0044 | | ug/L | | | 03/02/22 15:05 | 1 |
| Carbon disulfide | ND | *+ | 0.0062 | | ug/L | | | 03/02/22 15:05 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/02/22 15:05 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/02/22 15:05 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/02/22 15:05 | 1 |
| **Chloroform** | **0.0051** | | 0.0024 | | ug/L | | | 03/02/22 15:05 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/02/22 15:05 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 15:05 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/02/22 15:05 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 15:05 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/02/22 15:05 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/02/22 15:05 | 1 |
| **1,1-Difluoroethane** | **0.0054** | | 0.0054 | | ug/L | | | 03/02/22 15:05 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/02/22 15:05 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/02/22 15:05 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/02/22 15:05 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/02/22 15:05 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/02/22 15:05 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/02/22 15:05 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/02/22 15:05 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/02/22 15:05 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/02/22 15:05 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/02/22 15:05 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/02/22 15:05 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/02/22 15:05 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 15:05 | 1 |
| **o-Xylene** | **0.0030** | | 0.0022 | | ug/L | | | 03/02/22 15:05 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 15:05 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/02/22 15:05 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/02/22 15:05 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/02/22 15:05 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/02/22 15:05 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV2-5**
**Lab Sample ID: 570-86255-3**
**Date Collected: 03/01/22 08:23**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **0.0049** | | 0.0034 | | ug/L | | | 03/02/22 15:05 | 1 |
| **Toluene** | **0.059** | | 0.0019 | | ug/L | | | 03/02/22 15:05 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 15:05 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 15:05 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/02/22 15:05 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/02/22 15:05 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/02/22 15:05 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/02/22 15:05 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/02/22 15:05 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/02/22 15:05 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *114* | | *70 - 130* | | *03/02/22 15:05* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/02/22 15:05* | *1* |
| *Toluene-d8 (Surr)* | *120* | | *70 - 130* | | *03/02/22 15:05* | *1* |

**Client Sample ID: SV2-15**
**Lab Sample ID: 570-86255-4**
**Date Collected: 03/01/22 08:22**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.024** | | 0.0048 | | ug/L | | | 03/02/22 15:58 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/02/22 15:58 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/02/22 15:58 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/02/22 15:58 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/02/22 15:58 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/02/22 15:58 | 1 |
| **2-Butanone** | **0.0045** | | 0.0044 | | ug/L | | | 03/02/22 15:58 | 1 |
| Carbon disulfide | ND | *+ | 0.0062 | | ug/L | | | 03/02/22 15:58 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/02/22 15:58 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/02/22 15:58 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/02/22 15:58 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/02/22 15:58 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/02/22 15:58 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 15:58 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/02/22 15:58 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 15:58 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 15:58 | 1 |

# Client Sample Results

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job ID: 570-86255-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV2-15**
**Date Collected: 03/01/22 08:22**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

**Lab Sample ID: 570-86255-4**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/02/22 15:58 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/02/22 15:58 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/02/22 15:58 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/02/22 15:58 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/02/22 15:58 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/02/22 15:58 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/02/22 15:58 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/02/22 15:58 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/02/22 15:58 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/02/22 15:58 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/02/22 15:58 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/02/22 15:58 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/02/22 15:58 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/02/22 15:58 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 15:58 | 1 |
| **o-Xylene** | **0.0028** | | 0.0022 | | ug/L | | | 03/02/22 15:58 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 15:58 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/02/22 15:58 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/02/22 15:58 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/02/22 15:58 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/02/22 15:58 | 1 |
| **Tetrachloroethene** | **0.0089** | | 0.0034 | | ug/L | | | 03/02/22 15:58 | 1 |
| **Toluene** | **0.081** | | 0.0019 | | ug/L | | | 03/02/22 15:58 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 15:58 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 15:58 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/02/22 15:58 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/02/22 15:58 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/02/22 15:58 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/02/22 15:58 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/02/22 15:58 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/02/22 15:58 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *110* | | *70 - 130* | | *03/02/22 15:58* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/02/22 15:58* | *1* |
| *Toluene-d8 (Surr)* | *125* | | *70 - 130* | | *03/02/22 15:58* | *1* |

# Client Sample Results

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job ID: 570-86255-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: SV3-5**
**Date Collected: 03/01/22 10:50**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

**Lab Sample ID: 570-86255-5**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.038** | | 0.0048 | | ug/L | | | 03/02/22 16:57 | 1 |
| **Benzene** | **0.0022** | | 0.0016 | | ug/L | | | 03/02/22 16:57 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/02/22 16:57 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/02/22 16:57 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/02/22 16:57 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/02/22 16:57 | 1 |
| **2-Butanone** | **0.0056** | | 0.0044 | | ug/L | | | 03/02/22 16:57 | 1 |
| Carbon disulfide | ND | *+ | 0.0062 | | ug/L | | | 03/02/22 16:57 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/02/22 16:57 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/02/22 16:57 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/02/22 16:57 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/02/22 16:57 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/02/22 16:57 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 16:57 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/02/22 16:57 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 16:57 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/02/22 16:57 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/02/22 16:57 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/02/22 16:57 | 1 |
| **Ethylbenzene** | **0.0022** | | 0.0022 | | ug/L | | | 03/02/22 16:57 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/02/22 16:57 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/02/22 16:57 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/02/22 16:57 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/02/22 16:57 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/02/22 16:57 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/02/22 16:57 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/02/22 16:57 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/02/22 16:57 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/02/22 16:57 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/02/22 16:57 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 16:57 | 1 |
| **o-Xylene** | **0.0028** | | 0.0022 | | ug/L | | | 03/02/22 16:57 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 16:57 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/02/22 16:57 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/02/22 16:57 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/02/22 16:57 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/02/22 16:57 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV3-5** **Lab Sample ID: 570-86255-5**

**Date Collected: 03/01/22 10:50** **Matrix: Air**

**Date Received: 03/01/22 13:35**

**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **0.0083** | | 0.0034 | | ug/L | | | 03/02/22 16:57 | 1 |
| **Toluene** | **0.10** | | 0.0019 | | ug/L | | | 03/02/22 16:57 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 16:57 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 16:57 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/02/22 16:57 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/02/22 16:57 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/02/22 16:57 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/02/22 16:57 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/02/22 16:57 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/02/22 16:57 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | | *03/02/22 16:57* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/02/22 16:57* | *1* |
| *Toluene-d8 (Surr)* | *127* | | *70 - 130* | | *03/02/22 16:57* | *1* |

**Client Sample ID: SV3-15** **Lab Sample ID: 570-86255-6**

**Date Collected: 03/01/22 10:55** **Matrix: Air**

**Date Received: 03/01/22 13:35**

**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.033** | | 0.0048 | | ug/L | | | 03/02/22 17:52 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/02/22 17:52 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/02/22 17:52 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/02/22 17:52 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/02/22 17:52 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/02/22 17:52 | 1 |
| 2-Butanone | ND | | 0.0044 | | ug/L | | | 03/02/22 17:52 | 1 |
| Carbon disulfide | ND | *+ | 0.0062 | | ug/L | | | 03/02/22 17:52 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/02/22 17:52 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/02/22 17:52 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/02/22 17:52 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/02/22 17:52 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/02/22 17:52 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 17:52 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/02/22 17:52 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 17:52 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 17:52 | 1 |

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV3-15**
**Date Collected: 03/01/22 10:55**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

**Lab Sample ID: 570-86255-6**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/02/22 17:52 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/02/22 17:52 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/02/22 17:52 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/02/22 17:52 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/02/22 17:52 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/02/22 17:52 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/02/22 17:52 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/02/22 17:52 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/02/22 17:52 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/02/22 17:52 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/02/22 17:52 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/02/22 17:52 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/02/22 17:52 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/02/22 17:52 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 17:52 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/02/22 17:52 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 17:52 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/02/22 17:52 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/02/22 17:52 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/02/22 17:52 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/02/22 17:52 | 1 |
| **Tetrachloroethene** | **0.0038** | | 0.0034 | | ug/L | | | 03/02/22 17:52 | 1 |
| Toluene | ND | | 0.0019 | | ug/L | | | 03/02/22 17:52 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 17:52 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 17:52 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/02/22 17:52 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/02/22 17:52 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/02/22 17:52 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/02/22 17:52 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/02/22 17:52 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/02/22 17:52 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* | | *03/02/22 17:52* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/02/22 17:52* | *1* |
| *Toluene-d8 (Surr)* | *129* | | *70 - 130* | | *03/02/22 17:52* | *1* |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: SV4-5**
**Date Collected: 03/01/22 08:53**
**Date Received: 03/01/22 13:35**
**Sample Container:  Summa Canister 1L**

**Lab Sample ID: 570-86255-7**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.038** | | 0.0048 | | ug/L | | | 03/02/22 18:44 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/02/22 18:44 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/02/22 18:44 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/02/22 18:44 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/02/22 18:44 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/02/22 18:44 | 1 |
| **2-Butanone** | **0.0052** | | 0.0044 | | ug/L | | | 03/02/22 18:44 | 1 |
| Carbon disulfide | ND | *+ | 0.0062 | | ug/L | | | 03/02/22 18:44 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/02/22 18:44 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/02/22 18:44 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/02/22 18:44 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/02/22 18:44 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/02/22 18:44 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 18:44 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/02/22 18:44 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 18:44 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/02/22 18:44 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/02/22 18:44 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/02/22 18:44 | 1 |
| **Ethylbenzene** | **0.0039** | | 0.0022 | | ug/L | | | 03/02/22 18:44 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/02/22 18:44 | 1 |
| **4-Ethyltoluene** | **0.0057** | | 0.0025 | | ug/L | | | 03/02/22 18:44 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/02/22 18:44 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/02/22 18:44 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/02/22 18:44 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/02/22 18:44 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/02/22 18:44 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/02/22 18:44 | 1 |
| **m,p-Xylene** | **0.020** | | 0.0087 | | ug/L | | | 03/02/22 18:44 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/02/22 18:44 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 18:44 | 1 |
| **o-Xylene** | **0.0083** | | 0.0022 | | ug/L | | | 03/02/22 18:44 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 18:44 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/02/22 18:44 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/02/22 18:44 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/02/22 18:44 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/02/22 18:44 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV4-5**
**Lab Sample ID: 570-86255-7**
**Date Collected: 03/01/22 08:53**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **0.0057** | | 0.0034 | | ug/L | | | 03/02/22 18:44 | 1 |
| **Toluene** | **0.0087** | | 0.0019 | | ug/L | | | 03/02/22 18:44 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 18:44 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 18:44 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/02/22 18:44 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/02/22 18:44 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/02/22 18:44 | 1 |
| **1,2,4-Trimethylbenzene** | **0.020** | | 0.0074 | | ug/L | | | 03/02/22 18:44 | 1 |
| **1,3,5-Trimethylbenzene** | **0.0088** | | 0.0025 | | ug/L | | | 03/02/22 18:44 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/02/22 18:44 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/02/22 18:44 | 1 |
| **Xylenes, Total** | **0.028** | | 0.011 | | ug/L | | | 03/02/22 18:44 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *109* | | *70 - 130* | | *03/02/22 18:44* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *66 - 132* | | *03/02/22 18:44* | *1* |
| *Toluene-d8 (Surr)* | *126* | | *70 - 130* | | *03/02/22 18:44* | *1* |

**Client Sample ID: SV4-15**
**Lab Sample ID: 570-86255-8**
**Date Collected: 03/01/22 08:52**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.037** | | 0.0048 | | ug/L | | | 03/03/22 02:32 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 02:32 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 02:32 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 02:32 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 02:32 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 02:32 | 1 |
| **2-Butanone** | **0.0076** | | 0.0044 | | ug/L | | | 03/03/22 02:32 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 02:32 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 02:32 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 02:32 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 02:32 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 02:32 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 02:32 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 02:32 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 02:32 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 02:32 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 02:32 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV4-15**
**Lab Sample ID: 570-86255-8**
**Date Collected: 03/01/22 08:52**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 02:32 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 02:32 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 02:32 | 1 |
| **Ethylbenzene** | **0.0042** | | 0.0022 | | ug/L | | | 03/03/22 02:32 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 02:32 | 1 |
| **4-Ethyltoluene** | **0.0075** | | 0.0025 | | ug/L | | | 03/03/22 02:32 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 02:32 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 02:32 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 02:32 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 02:32 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 02:32 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 02:32 | 1 |
| **m,p-Xylene** | **0.022** | | 0.0087 | | ug/L | | | 03/03/22 02:32 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 02:32 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 02:32 | 1 |
| **o-Xylene** | **0.011** | | 0.0022 | | ug/L | | | 03/03/22 02:32 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 02:32 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 02:32 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 02:32 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 02:32 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 02:32 | 1 |
| **Tetrachloroethene** | **0.011** | | 0.0034 | | ug/L | | | 03/03/22 02:32 | 1 |
| **Toluene** | **0.0094** | | 0.0019 | | ug/L | | | 03/03/22 02:32 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 02:32 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 02:32 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 02:32 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 02:32 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 02:32 | 1 |
| **1,2,4-Trimethylbenzene** | **0.034** | | 0.0074 | | ug/L | | | 03/03/22 02:32 | 1 |
| **1,3,5-Trimethylbenzene** | **0.014** | | 0.0025 | | ug/L | | | 03/03/22 02:32 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 02:32 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 02:32 | 1 |
| **Xylenes, Total** | **0.033** | | 0.011 | | ug/L | | | 03/03/22 02:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | | *03/03/22 02:32* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *66 - 132* | | *03/03/22 02:32* | *1* |
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *03/03/22 02:32* | *1* |

# Client Sample Results

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: SV5-5**
**Date Collected: 03/01/22 10:49**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

**Lab Sample ID: 570-86255-9**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.033** | | 0.0048 | | ug/L | | | 03/03/22 03:23 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 03:23 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 03:23 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 03:23 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 03:23 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 03:23 | 1 |
| 2-Butanone | ND | | 0.0044 | | ug/L | | | 03/03/22 03:23 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 03:23 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 03:23 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 03:23 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 03:23 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 03:23 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 03:23 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 03:23 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 03:23 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 03:23 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 03:23 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 03:23 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 03:23 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 03:23 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 03:23 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 03:23 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 03:23 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 03:23 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 03:23 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 03:23 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 03:23 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 03:23 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 03:23 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 03:23 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 03:23 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 03:23 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 03:23 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 03:23 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 03:23 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 03:23 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 03:23 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV5-5** **Lab Sample ID: 570-86255-9**
**Date Collected: 03/01/22 10:49** **Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **0.0034** | | 0.0034 | | ug/L | | | 03/03/22 03:23 | 1 |
| **Toluene** | **0.0039** | | 0.0019 | | ug/L | | | 03/03/22 03:23 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 03:23 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 03:23 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 03:23 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 03:23 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 03:23 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 03:23 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 03:23 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 03:23 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *03/03/22 03:23* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/03/22 03:23* | *1* |
| *Toluene-d8 (Surr)* | *116* | | *70 - 130* | | *03/03/22 03:23* | *1* |

**Client Sample ID: SV5-15** **Lab Sample ID: 570-86255-10**
**Date Collected: 03/01/22 10:52** **Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.029** | | 0.0048 | | ug/L | | | 03/03/22 04:14 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 04:14 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 04:14 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 04:14 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 04:14 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 04:14 | 1 |
| **2-Butanone** | **0.0060** | | 0.0044 | | ug/L | | | 03/03/22 04:14 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 04:14 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 04:14 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 04:14 | 1 |
| **Chloroethane** | **0.013** | | 0.0013 | | ug/L | | | 03/03/22 04:14 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 04:14 | 1 |
| **Chloromethane** | **0.0030** | | 0.0010 | | ug/L | | | 03/03/22 04:14 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 04:14 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 04:14 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 04:14 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 04:14 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV5-15** **Lab Sample ID: 570-86255-10**
**Date Collected: 03/01/22 10:52** **Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 04:14 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 04:14 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 04:14 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 04:14 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 04:14 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 04:14 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 04:14 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 04:14 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 04:14 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 04:14 | 1 |
| **4-Methyl-2-pentanone** | **0.030** | | 0.0061 | | ug/L | | | 03/03/22 04:14 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 04:14 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 04:14 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 04:14 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 04:14 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 04:14 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 04:14 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 04:14 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 04:14 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 04:14 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 04:14 | 1 |
| **Tetrachloroethene** | **0.011** | | 0.0034 | | ug/L | | | 03/03/22 04:14 | 1 |
| **Toluene** | **0.0031** | | 0.0019 | | ug/L | | | 03/03/22 04:14 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 04:14 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 04:14 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 04:14 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 04:14 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 04:14 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 04:14 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 04:14 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 04:14 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* | | *03/03/22 04:14* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *66 - 132* | | *03/03/22 04:14* | *1* |
| *Toluene-d8 (Surr)* | *119* | | *70 - 130* | | *03/03/22 04:14* | *1* |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: SV6-5**
**Lab Sample ID: 570-86255-11**
**Date Collected: 03/01/22 10:18**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.051** | | 0.0048 | | ug/L | | | 03/03/22 05:07 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 05:07 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 05:07 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 05:07 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 05:07 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 05:07 | 1 |
| **2-Butanone** | **0.017** | | 0.0044 | | ug/L | | | 03/03/22 05:07 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 05:07 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 05:07 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 05:07 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 05:07 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 05:07 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 05:07 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 05:07 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 05:07 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 05:07 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 05:07 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 05:07 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 05:07 | 1 |
| **Ethylbenzene** | **0.0073** | | 0.0022 | | ug/L | | | 03/03/22 05:07 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 05:07 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 05:07 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 05:07 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 05:07 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 05:07 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 05:07 | 1 |
| **4-Methyl-2-pentanone** | **0.0069** | | 0.0061 | | ug/L | | | 03/03/22 05:07 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 05:07 | 1 |
| **m,p-Xylene** | **0.031** | | 0.0087 | | ug/L | | | 03/03/22 05:07 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 05:07 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 05:07 | 1 |
| **o-Xylene** | **0.0091** | | 0.0022 | | ug/L | | | 03/03/22 05:07 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 05:07 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 05:07 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 05:07 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 05:07 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 05:07 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV6-5** **Lab Sample ID: 570-86255-11**
**Date Collected: 03/01/22 10:18** **Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **0.0086** | | 0.0034 | | ug/L | | | 03/03/22 05:07 | 1 |
| **Toluene** | **0.010** | | 0.0019 | | ug/L | | | 03/03/22 05:07 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 05:07 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 05:07 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 05:07 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 05:07 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 05:07 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 05:07 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 05:07 | 1 |
| **Xylenes, Total** | **0.040** | | 0.011 | | ug/L | | | 03/03/22 05:07 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *03/03/22 05:07* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/03/22 05:07* | *1* |
| *Toluene-d8 (Surr)* | *124* | | *70 - 130* | | *03/03/22 05:07* | *1* |

**Client Sample ID: SV6-15** **Lab Sample ID: 570-86255-12**
**Date Collected: 03/01/22 10:20** **Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.039** | | 0.0048 | | ug/L | | | 03/03/22 06:10 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 06:10 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 06:10 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 06:10 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 06:10 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 06:10 | 1 |
| **2-Butanone** | **0.0075** | | 0.0044 | | ug/L | | | 03/03/22 06:10 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 06:10 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 06:10 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 06:10 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 06:10 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 06:10 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 06:10 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 06:10 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 06:10 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 06:10 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 06:10 | 1 |

# Client Sample Results

Client: Equipoise Corporation　　Job ID: 570-86255-1
Project/Site: HMC - 1628 81st St., Los Angeles

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV6-15**　　**Lab Sample ID: 570-86255-12**
**Date Collected: 03/01/22 10:20**　　**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 06:10 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 06:10 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 06:10 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 06:10 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 06:10 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 06:10 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 06:10 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 06:10 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 06:10 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 06:10 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 06:10 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 06:10 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 06:10 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 06:10 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 06:10 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 06:10 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 06:10 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 06:10 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 06:10 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 06:10 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 06:10 | 1 |
| **Tetrachloroethene** | **0.017** | | 0.0034 | | ug/L | | | 03/03/22 06:10 | 1 |
| **Toluene** | **0.0040** | | 0.0019 | | ug/L | | | 03/03/22 06:10 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 06:10 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 06:10 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 06:10 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 06:10 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 06:10 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 06:10 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 06:10 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 06:10 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *03/03/22 06:10* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *66 - 132* | | *03/03/22 06:10* | *1* |
| *Toluene-d8 (Surr)* | *121* | | *70 - 130* | | *03/03/22 06:10* | *1* |

# Client Sample Results

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: SV7-5**
**Date Collected: 03/01/22 09:10**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

**Lab Sample ID: 570-86255-13**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.027** | | 0.0048 | | ug/L | | | 03/03/22 07:08 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 07:08 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 07:08 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 07:08 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 07:08 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 07:08 | 1 |
| **2-Butanone** | **0.0044** | | 0.0044 | | ug/L | | | 03/03/22 07:08 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 07:08 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 07:08 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 07:08 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 07:08 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 07:08 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 07:08 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 07:08 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 07:08 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 07:08 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 07:08 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 07:08 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 07:08 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 07:08 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 07:08 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 07:08 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 07:08 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 07:08 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 07:08 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 07:08 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 07:08 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 07:08 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 07:08 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 07:08 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 07:08 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 07:08 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 07:08 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 07:08 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 07:08 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 07:08 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 07:08 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV7-5**	**Lab Sample ID: 570-86255-13**
**Date Collected: 03/01/22 09:10**	**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **0.011** | | 0.0034 | | ug/L | | | 03/03/22 07:08 | 1 |
| **Toluene** | **0.0050** | | 0.0019 | | ug/L | | | 03/03/22 07:08 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 07:08 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 07:08 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 07:08 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 07:08 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 07:08 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 07:08 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 07:08 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 07:08 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* | | *03/03/22 07:08* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/03/22 07:08* | *1* |
| *Toluene-d8 (Surr)* | *122* | | *70 - 130* | | *03/03/22 07:08* | *1* |

**Client Sample ID: SV7-15**	**Lab Sample ID: 570-86255-14**
**Date Collected: 03/01/22 09:09**	**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.037** | | 0.0048 | | ug/L | | | 03/03/22 08:00 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 08:00 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 08:00 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 08:00 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 08:00 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 08:00 | 1 |
| **2-Butanone** | **0.0077** | | 0.0044 | | ug/L | | | 03/03/22 08:00 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 08:00 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 08:00 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 08:00 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 08:00 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 08:00 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 08:00 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 08:00 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 08:00 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 08:00 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 08:00 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV7-15**
**Lab Sample ID: 570-86255-14**
**Date Collected: 03/01/22 09:09**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container:  Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 08:00 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 08:00 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 08:00 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 08:00 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 08:00 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 08:00 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 08:00 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 08:00 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 08:00 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 08:00 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 08:00 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 08:00 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 08:00 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 08:00 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 08:00 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 08:00 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 08:00 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 08:00 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 08:00 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 08:00 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 08:00 | 1 |
| **Tetrachloroethene** | **0.019** | | 0.0034 | | ug/L | | | 03/03/22 08:00 | 1 |
| **Toluene** | **0.0096** | | 0.0019 | | ug/L | | | 03/03/22 08:00 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 08:00 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 08:00 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 08:00 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 08:00 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 08:00 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 08:00 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 08:00 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 08:00 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* | | *03/03/22 08:00* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *66 - 132* | | *03/03/22 08:00* | *1* |
| *Toluene-d8 (Surr)* | *130* | | *70 - 130* | | *03/03/22 08:00* | *1* |

# Client Sample Results

Client: Equipoise Corporation
Job ID: 570-86255-1
Project/Site: HMC - 1628 81st St., Los Angeles

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: SV8-5**
**Lab Sample ID: 570-86255-15**
**Date Collected: 03/01/22 10:07**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.033** | | 0.0048 | | ug/L | | | 03/03/22 08:52 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 08:52 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 08:52 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 08:52 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 08:52 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 08:52 | 1 |
| **2-Butanone** | **0.0046** | | 0.0044 | | ug/L | | | 03/03/22 08:52 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 08:52 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 08:52 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 08:52 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 08:52 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 08:52 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 08:52 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 08:52 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 08:52 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 08:52 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 08:52 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 08:52 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 08:52 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 08:52 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 08:52 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 08:52 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 08:52 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 08:52 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 08:52 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 08:52 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 08:52 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 08:52 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 08:52 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 08:52 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 08:52 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 08:52 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 08:52 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 08:52 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 08:52 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 08:52 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 08:52 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV8-5**
**Date Collected: 03/01/22 10:07**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

**Lab Sample ID: 570-86255-15**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **0.011** | | 0.0034 | | ug/L | | | 03/03/22 08:52 | 1 |
| **Toluene** | **0.0046** | | 0.0019 | | ug/L | | | 03/03/22 08:52 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 08:52 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 08:52 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 08:52 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 08:52 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 08:52 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 08:52 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 08:52 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 08:52 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | | *03/03/22 08:52* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/03/22 08:52* | *1* |
| *Toluene-d8 (Surr)* | *128* | | *70 - 130* | | *03/03/22 08:52* | *1* |

**Client Sample ID: SV8-15**
**Date Collected: 03/01/22 10:05**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

**Lab Sample ID: 570-86255-16**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.036** | | 0.0048 | | ug/L | | | 03/03/22 09:44 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 09:44 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 09:44 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 09:44 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 09:44 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 09:44 | 1 |
| **2-Butanone** | **0.0066** | | 0.0044 | | ug/L | | | 03/03/22 09:44 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 09:44 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 09:44 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 09:44 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 09:44 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 09:44 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 09:44 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 09:44 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 09:44 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 09:44 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 09:44 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV8-15**
**Date Collected: 03/01/22 10:05**
**Date Received: 03/01/22 13:35**
**Sample Container:  Summa Canister 1L**

**Lab Sample ID: 570-86255-16**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 09:44 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 09:44 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 09:44 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 09:44 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 09:44 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 09:44 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 09:44 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 09:44 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 09:44 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 09:44 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 09:44 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 09:44 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 09:44 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 09:44 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 09:44 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 09:44 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 09:44 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 09:44 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 09:44 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 09:44 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 09:44 | 1 |
| **Tetrachloroethene** | **0.018** | | 0.0034 | | ug/L | | | 03/03/22 09:44 | 1 |
| **Toluene** | **0.0056** | | 0.0019 | | ug/L | | | 03/03/22 09:44 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 09:44 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 09:44 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 09:44 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 09:44 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 09:44 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 09:44 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 09:44 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 09:44 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | | *03/03/22 09:44* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *66 - 132* | | *03/03/22 09:44* | *1* |
| *Toluene-d8 (Surr)* | *130* | | *70 - 130* | | *03/03/22 09:44* | *1* |

# Client Sample Results

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: SV9-5**
**Lab Sample ID: 570-86255-17**
**Date Collected: 03/01/22 09:25**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | ND | | 0.0048 | | ug/L | | | 03/03/22 10:36 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 10:36 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 10:36 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 10:36 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 10:36 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 10:36 | 1 |
| 2-Butanone | ND | | 0.0044 | | ug/L | | | 03/03/22 10:36 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 10:36 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 10:36 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 10:36 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 10:36 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 10:36 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 10:36 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 10:36 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 10:36 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 10:36 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 10:36 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 10:36 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 10:36 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 10:36 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 10:36 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 10:36 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 10:36 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 10:36 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 10:36 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 10:36 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 10:36 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 10:36 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 10:36 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 10:36 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 10:36 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 10:36 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 10:36 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 10:36 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 10:36 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 10:36 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 10:36 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV9-5**
**Lab Sample ID: 570-86255-17**
**Date Collected: 03/01/22 09:25**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | ND | | 0.0034 | | ug/L | | | 03/03/22 10:36 | 1 |
| Toluene | ND | | 0.0019 | | ug/L | | | 03/03/22 10:36 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 10:36 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 10:36 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 10:36 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 10:36 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 10:36 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 10:36 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 10:36 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 10:36 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | | *03/03/22 10:36* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *66 - 132* | | *03/03/22 10:36* | *1* |
| *Toluene-d8 (Surr)* | *132* | *S1+* | *70 - 130* | | *03/03/22 10:36* | *1* |

**Client Sample ID: SV9-15**
**Lab Sample ID: 570-86255-18**
**Date Collected: 03/01/22 09:26**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.052** | | 0.0048 | | ug/L | | | 03/03/22 11:29 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 11:29 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 11:29 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 11:29 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 11:29 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 11:29 | 1 |
| **2-Butanone** | **0.0058** | | 0.0044 | | ug/L | | | 03/03/22 11:29 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 11:29 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 11:29 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 11:29 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 11:29 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 11:29 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 11:29 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 11:29 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 11:29 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 11:29 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 11:29 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV9-15**
**Lab Sample ID: 570-86255-18**
**Date Collected: 03/01/22 09:26**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 11:29 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 11:29 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 11:29 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 11:29 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 11:29 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 11:29 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 11:29 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 11:29 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 11:29 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 11:29 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 11:29 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 11:29 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 11:29 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 11:29 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 11:29 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 11:29 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 11:29 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 11:29 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 11:29 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 11:29 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 11:29 | 1 |
| **Tetrachloroethene** | **0.024** | | 0.0034 | | ug/L | | | 03/03/22 11:29 | 1 |
| **Toluene** | **0.012** | | 0.0019 | | ug/L | | | 03/03/22 11:29 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 11:29 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 11:29 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 11:29 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 11:29 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 11:29 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 11:29 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 11:29 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 11:29 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *114* | | *70 - 130* | | *03/03/22 11:29* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/03/22 11:29* | *1* |
| *Toluene-d8 (Surr)* | *131* | *S1+* | *70 - 130* | | *03/03/22 11:29* | *1* |

# Client Sample Results

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job ID: 570-86255-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: SV10-5**
**Date Collected: 03/01/22 09:52**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

**Lab Sample ID: 570-86255-19**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.026** | | 0.0048 | | ug/L | | | 03/03/22 12:25 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 12:25 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 12:25 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 12:25 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 12:25 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 12:25 | 1 |
| 2-Butanone | ND | | 0.0044 | | ug/L | | | 03/03/22 12:25 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 12:25 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 12:25 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 12:25 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 12:25 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 12:25 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 12:25 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 12:25 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 12:25 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 12:25 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 12:25 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 12:25 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 12:25 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 12:25 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 12:25 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 12:25 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 12:25 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 12:25 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 12:25 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 12:25 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 12:25 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 12:25 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 12:25 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 12:25 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 12:25 | 1 |
| **o-Xylene** | **0.0026** | | 0.0022 | | ug/L | | | 03/03/22 12:25 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 12:25 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 12:25 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 12:25 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 12:25 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 12:25 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV10-5** **Lab Sample ID: 570-86255-19**

**Date Collected: 03/01/22 09:52** **Matrix: Air**

**Date Received: 03/01/22 13:35**

**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **0.015** | | 0.0034 | | ug/L | | | 03/03/22 12:25 | 1 |
| **Toluene** | **0.0043** | | 0.0019 | | ug/L | | | 03/03/22 12:25 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 12:25 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 12:25 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 12:25 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 12:25 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 12:25 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 12:25 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 12:25 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 12:25 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* | | *03/03/22 12:25* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *66 - 132* | | *03/03/22 12:25* | *1* |
| *Toluene-d8 (Surr)* | *131* | *S1+* | *70 - 130* | | *03/03/22 12:25* | *1* |

**Client Sample ID: SV10-15** **Lab Sample ID: 570-86255-20**

**Date Collected: 03/01/22 09:47** **Matrix: Air**

**Date Received: 03/01/22 13:35**

**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.031** | | 0.0048 | | ug/L | | | 03/03/22 13:17 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 13:17 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 13:17 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 13:17 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 13:17 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 13:17 | 1 |
| **2-Butanone** | **0.0070** | | 0.0044 | | ug/L | | | 03/03/22 13:17 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 13:17 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 13:17 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 13:17 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 13:17 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 13:17 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 13:17 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 13:17 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 13:17 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 13:17 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 13:17 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: SV10-15** **Lab Sample ID: 570-86255-20**
**Date Collected: 03/01/22 09:47** **Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 13:17 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 13:17 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 13:17 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 13:17 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 13:17 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 13:17 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 13:17 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 13:17 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 13:17 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 13:17 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 13:17 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 13:17 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 13:17 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 13:17 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 13:17 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 13:17 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 13:17 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 13:17 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 13:17 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 13:17 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 13:17 | 1 |
| **Tetrachloroethene** | **0.026** | | 0.0034 | | ug/L | | | 03/03/22 13:17 | 1 |
| **Toluene** | **0.0059** | | 0.0019 | | ug/L | | | 03/03/22 13:17 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 13:17 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 13:17 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 13:17 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 13:17 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 13:17 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 13:17 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 13:17 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 13:17 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | | *03/03/22 13:17* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *66 - 132* | | *03/03/22 13:17* | *1* |
| *Toluene-d8 (Surr)* | *131* | *S1+* | *70 - 130* | | *03/03/22 13:17* | *1* |

# Client Sample Results

Client: Equipoise Corporation
Job ID: 570-86255-1
Project/Site: HMC - 1628 81st St., Los Angeles

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Client Sample ID: DUP-1**
**Lab Sample ID: 570-86255-21**
**Date Collected: 03/01/22 09:46**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.027** | | 0.0048 | | ug/L | | | 03/03/22 14:08 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 14:08 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 14:08 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 14:08 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 14:08 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 14:08 | 1 |
| 2-Butanone | ND | | 0.0044 | | ug/L | | | 03/03/22 14:08 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 14:08 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 14:08 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 14:08 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 14:08 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 14:08 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 14:08 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 14:08 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 14:08 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 14:08 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 14:08 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 14:08 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 14:08 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 14:08 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 14:08 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 14:08 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 14:08 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 14:08 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 14:08 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 14:08 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 14:08 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 14:08 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 14:08 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 14:08 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 14:08 | 1 |
| **o-Xylene** | **0.0022** | | 0.0022 | | ug/L | | | 03/03/22 14:08 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 14:08 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 14:08 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 14:08 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 14:08 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 14:08 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: DUP-1**
**Lab Sample ID: 570-86255-21**
**Date Collected: 03/01/22 09:46**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **0.013** | | 0.0034 | | ug/L | | | 03/03/22 14:08 | 1 |
| **Toluene** | **0.0041** | | 0.0019 | | ug/L | | | 03/03/22 14:08 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 14:08 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 14:08 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 14:08 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 14:08 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 14:08 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 14:08 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 14:08 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 14:08 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *110* | | *70 - 130* | | *03/03/22 14:08* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/03/22 14:08* | *1* |
| *Toluene-d8 (Surr)* | *127* | | *70 - 130* | | *03/03/22 14:08* | *1* |

**Client Sample ID: DUP-2**
**Lab Sample ID: 570-86255-22**
**Date Collected: 03/01/22 10:50**
**Matrix: Air**
**Date Received: 03/01/22 13:35**
**Sample Container: Summa Canister 1L**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **0.032** | | 0.0048 | | ug/L | | | 03/03/22 15:04 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 15:04 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 15:04 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 15:04 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 15:04 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 15:04 | 1 |
| **2-Butanone** | **0.0060** | | 0.0044 | | ug/L | | | 03/03/22 15:04 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 15:04 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 15:04 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 15:04 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 15:04 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 15:04 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 15:04 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 15:04 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 15:04 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 15:04 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 15:04 | 1 |

# Client Sample Results

Client: Equipoise Corporation
Project/Site: HMC - 1628  81st St., Los Angeles

Job ID: 570-86255-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Client Sample ID: DUP-2**
**Date Collected: 03/01/22 10:50**
**Date Received: 03/01/22 13:35**
**Sample Container:  Summa Canister 1L**

**Lab Sample ID: 570-86255-22**
**Matrix: Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 15:04 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 15:04 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 15:04 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 15:04 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 15:04 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 15:04 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 15:04 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 15:04 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 15:04 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 15:04 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 15:04 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 15:04 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 15:04 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 15:04 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 15:04 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 15:04 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 15:04 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 15:04 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 15:04 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 15:04 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 15:04 | 1 |
| **Tetrachloroethene** | **0.0069** | | 0.0034 | | ug/L | | | 03/03/22 15:04 | 1 |
| **Toluene** | **0.0019** | | 0.0019 | | ug/L | | | 03/03/22 15:04 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 15:04 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 15:04 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 15:04 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 15:04 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 15:04 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 15:04 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 15:04 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 15:04 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | | *03/03/22 15:04* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* | | *03/03/22 15:04* | *1* |
| *Toluene-d8 (Surr)* | *126* | | *70 - 130* | | *03/03/22 15:04* | *1* |

# Surrogate Summary

Client: Equipoise Corporation                                                                 Job ID: 570-86255-1
Project/Site: HMC - 1628  81st St., Los Angeles

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Matrix: Air**                                                                 **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | |
|---|---|---|---|---|
| | | BFB | DCA | TOL |
| **Lab Sample ID** | **Client Sample ID** | **(70-130)** | **(66-132)** | **(70-130)** |
| 570-86255-1 | SV1-5 | 114 | 95 | 124 |
| 570-86255-2 | SV1-15 | 113 | 95 | 123 |
| 570-86255-3 | SV2-5 | 114 | 94 | 120 |
| 570-86255-4 | SV2-15 | 110 | 94 | 125 |
| 570-86255-5 | SV3-5 | 102 | 94 | 127 |
| 570-86255-6 | SV3-15 | 106 | 94 | 129 |
| 570-86255-7 | SV4-5 | 109 | 93 | 126 |
| 570-86255-8 | SV4-15 | 102 | 96 | 105 |
| 570-86255-9 | SV5-5 | 103 | 94 | 116 |
| 570-86255-10 | SV5-15 | 106 | 95 | 119 |
| 570-86255-11 | SV6-5 | 103 | 94 | 124 |
| 570-86255-12 | SV6-15 | 103 | 93 | 121 |
| 570-86255-13 | SV7-5 | 106 | 94 | 122 |
| 570-86255-14 | SV7-15 | 106 | 95 | 130 |
| 570-86255-15 | SV8-5 | 104 | 94 | 128 |
| 570-86255-16 | SV8-15 | 104 | 93 | 130 |
| 570-86255-17 | SV9-5 | 104 | 92 | 132 S1+ |
| 570-86255-18 | SV9-15 | 114 | 94 | 131 S1+ |
| 570-86255-19 | SV10-5 | 105 | 95 | 131 S1+ |
| 570-86255-20 | SV10-15 | 104 | 93 | 131 S1+ |
| 570-86255-21 | DUP-1 | 110 | 94 | 127 |
| 570-86255-22 | DUP-2 | 104 | 94 | 126 |
| LCS 570-216579/4 | Lab Control Sample | 99 | 94 | 102 |
| LCS 570-216715/3 | Lab Control Sample | 97 | 92 | 101 |
| LCSD 570-216579/5 | Lab Control Sample Dup | 101 | 94 | 100 |
| LCSD 570-216715/4 | Lab Control Sample Dup | 97 | 92 | 101 |
| MB 570-216579/7 | Method Blank | 102 | 95 | 99 |
| MB 570-216715/6 | Method Blank | 104 | 92 | 99 |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 570-216579/7**
**Matrix: Air**
**Analysis Batch: 216579**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | ND | | 0.0048 | | ug/L | | | 03/02/22 01:35 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/02/22 01:35 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/02/22 01:35 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/02/22 01:35 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/02/22 01:35 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/02/22 01:35 | 1 |
| 2-Butanone | ND | | 0.0044 | | ug/L | | | 03/02/22 01:35 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/02/22 01:35 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/02/22 01:35 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/02/22 01:35 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/02/22 01:35 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/02/22 01:35 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/02/22 01:35 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 01:35 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/02/22 01:35 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/02/22 01:35 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/02/22 01:35 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/02/22 01:35 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/02/22 01:35 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/02/22 01:35 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/02/22 01:35 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/02/22 01:35 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/02/22 01:35 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/02/22 01:35 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/02/22 01:35 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/02/22 01:35 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/02/22 01:35 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/02/22 01:35 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/02/22 01:35 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/02/22 01:35 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 01:35 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/02/22 01:35 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 01:35 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/02/22 01:35 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/02/22 01:35 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/02/22 01:35 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/02/22 01:35 | 1 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 570-216579/7**
**Matrix: Air**
**Analysis Batch: 216579**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | ND | | 0.0034 | | ug/L | | | 03/02/22 01:35 | 1 |
| Toluene | ND | | 0.0019 | | ug/L | | | 03/02/22 01:35 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/02/22 01:35 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/02/22 01:35 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/02/22 01:35 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/02/22 01:35 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/02/22 01:35 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/02/22 01:35 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/02/22 01:35 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/02/22 01:35 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | | *03/02/22 01:35* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *66 - 132* | | *03/02/22 01:35* | *1* |
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* | | *03/02/22 01:35* | *1* |

**Lab Sample ID: LCS 570-216579/4**
**Matrix: Air**
**Analysis Batch: 216579**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acetone | 0.0594 | 0.06170 | | ug/L | | 104 | 70 - 130 |
| Benzene | 0.0799 | 0.08911 | | ug/L | | 112 | 68 - 134 |
| Benzyl chloride | 0.129 | 0.1384 | | ug/L | | 107 | 70 - 130 |
| Bromodichloromethane | 0.168 | 0.1847 | | ug/L | | 110 | 69 - 132 |
| Bromoform | 0.258 | 0.2830 | | ug/L | | 110 | 70 - 130 |
| Bromomethane | 0.0971 | 0.1095 | | ug/L | | 113 | 65 - 130 |
| 2-Butanone | 0.0737 | 0.07544 | | ug/L | | 102 | 66 - 143 |
| Carbon disulfide | 0.0779 | 0.1018 | *+ me | ug/L | | 131 | 70 - 130 |
| Carbon tetrachloride | 0.157 | 0.1774 | | ug/L | | 113 | 68 - 133 |
| Chlorobenzene | 0.115 | 0.1262 | | ug/L | | 110 | 70 - 130 |
| Chloroethane | 0.0660 | 0.06854 | | ug/L | | 104 | 66 - 134 |
| Chloroform | 0.122 | 0.1292 | | ug/L | | 106 | 67 - 131 |
| Chloromethane | 0.0516 | 0.05156 | | ug/L | | 100 | 60 - 137 |
| c-1,2-Dichloroethene | 0.0991 | 0.1032 | | ug/L | | 104 | 70 - 130 |
| c-1,3-Dichloropropene | 0.113 | 0.1172 | | ug/L | | 103 | 70 - 134 |
| Dibromochloromethane | 0.213 | 0.2387 | | ug/L | | 112 | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | 0.242 | 0.2622 | | ug/L | | 109 | 66 - 130 |
| 1,2-Dibromoethane | 0.192 | 0.2167 | | ug/L | | 113 | 70 - 130 |
| 1,2-Dichlorobenzene | 0.150 | 0.1624 | | ug/L | | 108 | 68 - 130 |
| 1,3-Dichlorobenzene | 0.150 | 0.1604 | | ug/L | | 107 | 65 - 130 |
| 1,4-Dichlorobenzene | 0.150 | 0.1616 | | ug/L | | 107 | 64 - 130 |
| Dichlorodifluoromethane | 0.124 | 0.1346 | | ug/L | | 109 | 57 - 138 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 570-216579/4**
**Matrix: Air**
**Analysis Batch: 216579**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 0.101 | 0.1066 | | ug/L | | 105 | 69 - 130 |
| 1,2-Dichloroethane | 0.101 | 0.1060 | | ug/L | | 105 | 65 - 136 |
| 1,1-Dichloroethene | 0.0991 | 0.09871 | | ug/L | | 100 | 64 - 135 |
| 1,2-Dichloropropane | 0.116 | 0.1255 | | ug/L | | 109 | 68 - 132 |
| Dichlorotetrafluoroethane | 0.175 | 0.1960 | | ug/L | | 112 | 60 - 133 |
| 1,1-Difluoroethane | 0.0675 | 0.05723 | | ug/L | | 85 | 57 - 146 |
| Di-isopropyl ether (DIPE) | 0.104 | 0.1035 | | ug/L | | 99 | 58 - 144 |
| Ethylbenzene | 0.109 | 0.1205 | | ug/L | | 111 | 70 - 130 |
| Ethyl-t-butyl ether (ETBE) | 0.104 | 0.1053 | | ug/L | | 101 | 67 - 130 |
| 4-Ethyltoluene | 0.123 | 0.1267 | | ug/L | | 103 | 69 - 130 |
| Hexachloro-1,3-butadiene | 0.267 | 0.2915 | | ug/L | | 109 | 58 - 130 |
| 2-Hexanone | 0.102 | 0.1074 | | ug/L | | 105 | 64 - 139 |
| Isopropanol | 0.0615 | 0.05748 | | ug/L | | 94 | 64 - 133 |
| Methylene Chloride | 0.0868 | 0.09044 | | ug/L | | 104 | 65 - 130 |
| 4-Methyl-2-pentanone | 0.102 | 0.1102 | | ug/L | | 108 | 65 - 135 |
| Methyl-t-Butyl Ether (MTBE) | 0.0901 | 0.09878 | | ug/L | | 110 | 70 - 130 |
| m,p-Xylene | 0.217 | 0.2332 | | ug/L | | 107 | 70 - 130 |
| Naphthalene | 0.131 | 0.1318 | | ug/L | | 101 | 36 - 146 |
| n-Butylbenzene | 0.137 | 0.1415 | | ug/L | | 103 | 64 - 130 |
| o-Xylene | 0.109 | 0.1146 | | ug/L | | 106 | 68 - 130 |
| sec-Butylbenzene | 0.137 | 0.1394 | | ug/L | | 102 | 67 - 130 |
| Styrene | 0.106 | 0.1184 | | ug/L | | 111 | 70 - 130 |
| Tert-amyl-methyl ether (TAME) | 0.104 | 0.1134 | | ug/L | | 109 | 70 - 130 |
| tert-Butyl alcohol (TBA) | 0.152 | 0.1506 | | ug/L | | 99 | 65 - 132 |
| tert-Butylbenzene | 0.137 | 0.1384 | | ug/L | | 101 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 0.172 | 0.1853 | | ug/L | | 108 | 70 - 130 |
| Tetrachloroethene | 0.170 | 0.1847 | | ug/L | | 109 | 70 - 130 |
| Toluene | 0.0942 | 0.1046 | | ug/L | | 111 | 70 - 130 |
| t-1,2-Dichloroethene | 0.0991 | 0.1157 | | ug/L | | 117 | 70 - 130 |
| t-1,3-Dichloropropene | 0.113 | 0.1235 | | ug/L | | 109 | 66 - 142 |
| 1,2,4-Trichlorobenzene | 0.186 | 0.2047 | | ug/L | | 110 | 51 - 134 |
| 1,1,1-Trichloroethane | 0.136 | 0.1494 | | ug/L | | 109 | 67 - 135 |
| 1,1,2-Trichloroethane | 0.136 | 0.1519 | | ug/L | | 111 | 69 - 131 |
| Trichloroethene | 0.134 | 0.1451 | | ug/L | | 108 | 69 - 130 |
| Trichlorofluoromethane | 0.140 | 0.1555 | | ug/L | | 111 | 62 - 139 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.192 | 0.2062 | | ug/L | | 108 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 0.123 | 0.1249 | | ug/L | | 102 | 68 - 130 |
| 1,3,5-Trimethylbenzene | 0.123 | 0.1278 | | ug/L | | 104 | 69 - 130 |
| Vinyl acetate | 0.0880 | 0.08697 | | ug/L | | 99 | 64 - 139 |
| Vinyl chloride | 0.0639 | 0.06701 | | ug/L | | 105 | 65 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* |
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* |

# QC Sample Results

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCSD 570-216579/5**
**Matrix: Air**
**Analysis Batch: 216579**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.0594 | 0.06471 | | ug/L | | 109 | 70 - 130 | 5 | 25 |
| Benzene | 0.0799 | 0.09048 | | ug/L | | 113 | 68 - 134 | 2 | 25 |
| Benzyl chloride | 0.129 | 0.1456 | | ug/L | | 113 | 70 - 130 | 5 | 25 |
| Bromodichloromethane | 0.168 | 0.1876 | | ug/L | | 112 | 69 - 132 | 2 | 25 |
| Bromoform | 0.258 | 0.2967 | | ug/L | | 115 | 70 - 130 | 5 | 25 |
| Bromomethane | 0.0971 | 0.1138 | | ug/L | | 117 | 65 - 130 | 4 | 25 |
| 2-Butanone | 0.0737 | 0.07788 | | ug/L | | 106 | 66 - 143 | 3 | 25 |
| Carbon disulfide | 0.0779 | 0.1049 | *+ me | ug/L | | 135 | 70 - 130 | 3 | 25 |
| Carbon tetrachloride | 0.157 | 0.1803 | | ug/L | | 115 | 68 - 133 | 2 | 25 |
| Chlorobenzene | 0.115 | 0.1324 | | ug/L | | 115 | 70 - 130 | 5 | 25 |
| Chloroethane | 0.0660 | 0.07138 | | ug/L | | 108 | 66 - 134 | 4 | 25 |
| Chloroform | 0.122 | 0.1341 | | ug/L | | 110 | 67 - 131 | 4 | 25 |
| Chloromethane | 0.0516 | 0.05344 | | ug/L | | 104 | 60 - 137 | 4 | 25 |
| c-1,2-Dichloroethene | 0.0991 | 0.1083 | | ug/L | | 109 | 70 - 130 | 5 | 25 |
| c-1,3-Dichloropropene | 0.113 | 0.1199 | | ug/L | | 106 | 70 - 134 | 2 | 25 |
| Dibromochloromethane | 0.213 | 0.2471 | | ug/L | | 116 | 70 - 130 | 3 | 25 |
| 1,2-Dibromo-3-Chloropropane | 0.242 | 0.2763 | | ug/L | | 114 | 66 - 130 | 5 | 25 |
| 1,2-Dibromoethane | 0.192 | 0.2235 | | ug/L | | 116 | 70 - 130 | 3 | 25 |
| 1,2-Dichlorobenzene | 0.150 | 0.1708 | | ug/L | | 114 | 68 - 130 | 5 | 25 |
| 1,3-Dichlorobenzene | 0.150 | 0.1599 | | ug/L | | 106 | 65 - 130 | 0 | 25 |
| 1,4-Dichlorobenzene | 0.150 | 0.1670 | | ug/L | | 111 | 64 - 130 | 3 | 25 |
| Dichlorodifluoromethane | 0.124 | 0.1386 | | ug/L | | 112 | 57 - 138 | 3 | 25 |
| 1,1-Dichloroethane | 0.101 | 0.1107 | | ug/L | | 109 | 69 - 130 | 4 | 25 |
| 1,2-Dichloroethane | 0.101 | 0.1100 | | ug/L | | 109 | 65 - 136 | 4 | 25 |
| 1,1-Dichloroethene | 0.0991 | 0.1032 | | ug/L | | 104 | 64 - 135 | 4 | 25 |
| 1,2-Dichloropropane | 0.116 | 0.1280 | | ug/L | | 111 | 68 - 132 | 2 | 25 |
| Dichlorotetrafluoroethane | 0.175 | 0.2037 | | ug/L | | 117 | 60 - 133 | 4 | 25 |
| 1,1-Difluoroethane | 0.0675 | 0.06407 | | ug/L | | 95 | 57 - 146 | 11 | 25 |
| Di-isopropyl ether (DIPE) | 0.104 | 0.1058 | | ug/L | | 101 | 58 - 144 | 2 | 25 |
| Ethylbenzene | 0.109 | 0.1258 | | ug/L | | 116 | 70 - 130 | 4 | 25 |
| Ethyl-t-butyl ether (ETBE) | 0.104 | 0.1091 | | ug/L | | 104 | 67 - 130 | 4 | 25 |
| 4-Ethyltoluene | 0.123 | 0.1313 | | ug/L | | 107 | 69 - 130 | 4 | 25 |
| Hexachloro-1,3-butadiene | 0.267 | 0.3100 | | ug/L | | 116 | 58 - 130 | 6 | 25 |
| 2-Hexanone | 0.102 | 0.1109 | | ug/L | | 108 | 64 - 139 | 3 | 25 |
| Isopropanol | 0.0615 | 0.05992 | | ug/L | | 98 | 64 - 133 | 4 | 25 |
| Methylene Chloride | 0.0868 | 0.09401 | | ug/L | | 108 | 65 - 130 | 4 | 25 |
| 4-Methyl-2-pentanone | 0.102 | 0.1124 | | ug/L | | 110 | 65 - 135 | 2 | 25 |
| Methyl-t-Butyl Ether (MTBE) | 0.0901 | 0.1027 | | ug/L | | 114 | 70 - 130 | 4 | 25 |
| m,p-Xylene | 0.217 | 0.2423 | | ug/L | | 112 | 70 - 130 | 4 | 25 |
| Naphthalene | 0.131 | 0.1258 | | ug/L | | 96 | 36 - 146 | 5 | 25 |
| n-Butylbenzene | 0.137 | 0.1469 | | ug/L | | 107 | 64 - 130 | 4 | 25 |
| o-Xylene | 0.109 | 0.1190 | | ug/L | | 110 | 68 - 130 | 4 | 25 |
| sec-Butylbenzene | 0.137 | 0.1442 | | ug/L | | 105 | 67 - 130 | 3 | 25 |
| Styrene | 0.106 | 0.1220 | | ug/L | | 115 | 70 - 130 | 3 | 25 |
| Tert-amyl-methyl ether (TAME) | 0.104 | 0.1142 | | ug/L | | 109 | 70 - 130 | 1 | 25 |
| tert-Butyl alcohol (TBA) | 0.152 | 0.1564 | | ug/L | | 103 | 65 - 132 | 4 | 25 |
| tert-Butylbenzene | 0.137 | 0.1436 | | ug/L | | 105 | 70 - 130 | 4 | 25 |
| 1,1,2,2-Tetrachloroethane | 0.172 | 0.1950 | | ug/L | | 114 | 70 - 130 | 5 | 25 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCSD 570-216579/5**
**Client Sample ID: Lab Control Sample Dup**
**Matrix: Air**
**Prep Type: Total/NA**
**Analysis Batch: 216579**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | | | 0.170 | 0.1951 | | ug/L | | 115 | 70 - 130 | 5 | 25 |
| Toluene | | | 0.0942 | 0.1089 | | ug/L | | 116 | 70 - 130 | 4 | 25 |
| t-1,2-Dichloroethene | | | 0.0991 | 0.1209 | | ug/L | | 122 | 70 - 130 | 4 | 25 |
| t-1,3-Dichloropropene | | | 0.113 | 0.1257 | | ug/L | | 111 | 66 - 142 | 2 | 25 |
| 1,2,4-Trichlorobenzene | | | 0.186 | 0.1982 | | ug/L | | 107 | 51 - 134 | 3 | 25 |
| 1,1,1-Trichloroethane | | | 0.136 | 0.1558 | | ug/L | | 114 | 67 - 135 | 4 | 25 |
| 1,1,2-Trichloroethane | | | 0.136 | 0.1549 | | ug/L | | 114 | 69 - 131 | 2 | 25 |
| Trichloroethene | | | 0.134 | 0.1475 | | ug/L | | 110 | 69 - 130 | 2 | 25 |
| Trichlorofluoromethane | | | 0.140 | 0.1617 | | ug/L | | 115 | 62 - 139 | 4 | 25 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 0.192 | 0.2146 | | ug/L | | 112 | 70 - 130 | 4 | 25 |
| 1,2,4-Trimethylbenzene | | | 0.123 | 0.1306 | | ug/L | | 106 | 68 - 130 | 4 | 25 |
| 1,3,5-Trimethylbenzene | | | 0.123 | 0.1320 | | ug/L | | 107 | 69 - 130 | 3 | 25 |
| Vinyl acetate | | | 0.0880 | 0.09009 | | ug/L | | 102 | 64 - 139 | 4 | 25 |
| Vinyl chloride | | | 0.0639 | 0.06829 | | ug/L | | 107 | 65 - 130 | 2 | 25 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *66 - 132* |
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* |

**Lab Sample ID: MB 570-216715/6**
**Client Sample ID: Method Blank**
**Matrix: Air**
**Prep Type: Total/NA**
**Analysis Batch: 216715**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | ND | | 0.0048 | | ug/L | | | 03/03/22 00:05 | 1 |
| Benzene | ND | | 0.0016 | | ug/L | | | 03/03/22 00:05 | 1 |
| Benzyl chloride | ND | | 0.0078 | | ug/L | | | 03/03/22 00:05 | 1 |
| Bromodichloromethane | ND | | 0.0034 | | ug/L | | | 03/03/22 00:05 | 1 |
| Bromoform | ND | | 0.0052 | | ug/L | | | 03/03/22 00:05 | 1 |
| Bromomethane | ND | | 0.0019 | | ug/L | | | 03/03/22 00:05 | 1 |
| 2-Butanone | ND | | 0.0044 | | ug/L | | | 03/03/22 00:05 | 1 |
| Carbon disulfide | ND | | 0.0062 | | ug/L | | | 03/03/22 00:05 | 1 |
| Carbon tetrachloride | ND | | 0.0031 | | ug/L | | | 03/03/22 00:05 | 1 |
| Chlorobenzene | ND | | 0.0023 | | ug/L | | | 03/03/22 00:05 | 1 |
| Chloroethane | ND | | 0.0013 | | ug/L | | | 03/03/22 00:05 | 1 |
| Chloroform | ND | | 0.0024 | | ug/L | | | 03/03/22 00:05 | 1 |
| Chloromethane | ND | | 0.0010 | | ug/L | | | 03/03/22 00:05 | 1 |
| c-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 00:05 | 1 |
| c-1,3-Dichloropropene | ND | | 0.0023 | | ug/L | | | 03/03/22 00:05 | 1 |
| Dibromochloromethane | ND | | 0.0043 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 0.014 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,2-Dibromoethane | ND | | 0.0038 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.0030 | | ug/L | | | 03/03/22 00:05 | 1 |
| Dichlorodifluoromethane | ND | | 0.0025 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,1-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 00:05 | 1 |

# QC Sample Results

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 570-216715/6**
**Matrix: Air**
**Analysis Batch: 216715**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | | 0.0020 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,1-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,2-Dichloropropane | ND | | 0.0023 | | ug/L | | | 03/03/22 00:05 | 1 |
| Dichlorotetrafluoroethane | ND | | 0.014 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,1-Difluoroethane | ND | | 0.0054 | | ug/L | | | 03/03/22 00:05 | 1 |
| Di-isopropyl ether (DIPE) | ND | | 0.0084 | | ug/L | | | 03/03/22 00:05 | 1 |
| Ethylbenzene | ND | | 0.0022 | | ug/L | | | 03/03/22 00:05 | 1 |
| Ethyl-t-butyl ether (ETBE) | ND | | 0.0084 | | ug/L | | | 03/03/22 00:05 | 1 |
| 4-Ethyltoluene | ND | | 0.0025 | | ug/L | | | 03/03/22 00:05 | 1 |
| Hexachloro-1,3-butadiene | ND | | 0.016 | | ug/L | | | 03/03/22 00:05 | 1 |
| 2-Hexanone | ND | | 0.0061 | | ug/L | | | 03/03/22 00:05 | 1 |
| Isopropanol | ND | | 0.012 | | ug/L | | | 03/03/22 00:05 | 1 |
| Methylene Chloride | ND | | 0.017 | | ug/L | | | 03/03/22 00:05 | 1 |
| 4-Methyl-2-pentanone | ND | | 0.0061 | | ug/L | | | 03/03/22 00:05 | 1 |
| Methyl-t-Butyl Ether (MTBE) | ND | | 0.0072 | | ug/L | | | 03/03/22 00:05 | 1 |
| m,p-Xylene | ND | | 0.0087 | | ug/L | | | 03/03/22 00:05 | 1 |
| Naphthalene | ND | | 0.0066 | | ug/L | | | 03/03/22 00:05 | 1 |
| n-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 00:05 | 1 |
| o-Xylene | ND | | 0.0022 | | ug/L | | | 03/03/22 00:05 | 1 |
| sec-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 00:05 | 1 |
| Styrene | ND | | 0.0064 | | ug/L | | | 03/03/22 00:05 | 1 |
| Tert-amyl-methyl ether (TAME) | ND | | 0.0084 | | ug/L | | | 03/03/22 00:05 | 1 |
| tert-Butyl alcohol (TBA) | ND | | 0.0061 | | ug/L | | | 03/03/22 00:05 | 1 |
| tert-Butylbenzene | ND | | 0.0082 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0069 | | ug/L | | | 03/03/22 00:05 | 1 |
| Tetrachloroethene | ND | | 0.0034 | | ug/L | | | 03/03/22 00:05 | 1 |
| Toluene | ND | | 0.0019 | | ug/L | | | 03/03/22 00:05 | 1 |
| t-1,2-Dichloroethene | ND | | 0.0020 | | ug/L | | | 03/03/22 00:05 | 1 |
| t-1,3-Dichloropropene | ND | | 0.0045 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 0.015 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,1,1-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.0027 | | ug/L | | | 03/03/22 00:05 | 1 |
| Trichloroethene | ND | | 0.0027 | | ug/L | | | 03/03/22 00:05 | 1 |
| Trichlorofluoromethane | ND | | 0.0056 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.011 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.0074 | | ug/L | | | 03/03/22 00:05 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.0025 | | ug/L | | | 03/03/22 00:05 | 1 |
| Vinyl acetate | ND | | 0.0070 | | ug/L | | | 03/03/22 00:05 | 1 |
| Vinyl chloride | ND | | 0.0013 | | ug/L | | | 03/03/22 00:05 | 1 |
| Xylenes, Total | ND | | 0.011 | | ug/L | | | 03/03/22 00:05 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | | *03/03/22 00:05* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *66 - 132* | | *03/03/22 00:05* | *1* |
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* | | *03/03/22 00:05* | *1* |

# QC Sample Results

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 570-216715/3**
**Client Sample ID: Lab Control Sample**
**Matrix: Air**
**Prep Type: Total/NA**
**Analysis Batch: 216715**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acetone | 0.0594 | 0.06246 | | ug/L | | 105 | 70 - 130 |
| Benzene | 0.0799 | 0.08864 | | ug/L | | 111 | 68 - 134 |
| Benzyl chloride | 0.129 | 0.1073 | | ug/L | | 83 | 70 - 130 |
| Bromodichloromethane | 0.168 | 0.1790 | | ug/L | | 107 | 69 - 132 |
| Bromoform | 0.258 | 0.2535 | | ug/L | | 98 | 70 - 130 |
| Bromomethane | 0.0971 | 0.1098 | | ug/L | | 113 | 65 - 130 |
| 2-Butanone | 0.0737 | 0.07388 | | ug/L | | 100 | 66 - 143 |
| Carbon disulfide | 0.0779 | 0.09956 | | ug/L | | 128 | 70 - 130 |
| Carbon tetrachloride | 0.157 | 0.1764 | | ug/L | | 112 | 68 - 133 |
| Chlorobenzene | 0.115 | 0.1209 | | ug/L | | 105 | 70 - 130 |
| Chloroethane | 0.0660 | 0.06764 | | ug/L | | 103 | 66 - 134 |
| Chloroform | 0.122 | 0.1275 | | ug/L | | 104 | 67 - 131 |
| Chloromethane | 0.0516 | 0.05108 | | ug/L | | 99 | 60 - 137 |
| c-1,2-Dichloroethene | 0.0991 | 0.1027 | | ug/L | | 104 | 70 - 130 |
| c-1,3-Dichloropropene | 0.113 | 0.1134 | | ug/L | | 100 | 70 - 134 |
| Dibromochloromethane | 0.213 | 0.2246 | | ug/L | | 105 | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | 0.242 | 0.2234 | | ug/L | | 92 | 66 - 130 |
| 1,2-Dibromoethane | 0.192 | 0.2007 | | ug/L | | 104 | 70 - 130 |
| 1,2-Dichlorobenzene | 0.150 | 0.1291 | | ug/L | | 86 | 68 - 130 |
| 1,3-Dichlorobenzene | 0.150 | 0.1249 | | ug/L | | 83 | 65 - 130 |
| 1,4-Dichlorobenzene | 0.150 | 0.1289 | | ug/L | | 86 | 64 - 130 |
| Dichlorodifluoromethane | 0.124 | 0.1333 | | ug/L | | 108 | 57 - 138 |
| 1,1-Dichloroethane | 0.101 | 0.1058 | | ug/L | | 105 | 69 - 130 |
| 1,2-Dichloroethane | 0.101 | 0.1032 | | ug/L | | 102 | 65 - 136 |
| 1,1-Dichloroethene | 0.0991 | 0.09786 | | ug/L | | 99 | 64 - 135 |
| 1,2-Dichloropropane | 0.116 | 0.1254 | | ug/L | | 109 | 68 - 132 |
| Dichlorotetrafluoroethane | 0.175 | 0.1950 | | ug/L | | 112 | 60 - 133 |
| 1,1-Difluoroethane | 0.0675 | 0.06065 | | ug/L | | 90 | 57 - 146 |
| Di-isopropyl ether (DIPE) | 0.104 | 0.1022 | | ug/L | | 98 | 58 - 144 |
| Ethylbenzene | 0.109 | 0.1135 | | ug/L | | 105 | 70 - 130 |
| Ethyl-t-butyl ether (ETBE) | 0.104 | 0.1056 | | ug/L | | 101 | 67 - 130 |
| 4-Ethyltoluene | 0.123 | 0.1112 | | ug/L | | 90 | 69 - 130 |
| Hexachloro-1,3-butadiene | 0.267 | 0.2432 | | ug/L | | 91 | 58 - 130 |
| 2-Hexanone | 0.102 | 0.1003 | | ug/L | | 98 | 64 - 139 |
| Isopropanol | 0.0615 | 0.05701 | | ug/L | | 93 | 64 - 133 |
| Methylene Chloride | 0.0868 | 0.09044 | | ug/L | | 104 | 65 - 130 |
| 4-Methyl-2-pentanone | 0.102 | 0.1073 | | ug/L | | 105 | 65 - 135 |
| Methyl-t-Butyl Ether (MTBE) | 0.0901 | 0.09882 | | ug/L | | 110 | 70 - 130 |
| m,p-Xylene | 0.217 | 0.2158 | | ug/L | | 99 | 70 - 130 |
| Naphthalene | 0.131 | 0.09438 | | ug/L | | 72 | 36 - 146 |
| n-Butylbenzene | 0.137 | 0.1268 | | ug/L | | 92 | 64 - 130 |
| o-Xylene | 0.109 | 0.1054 | | ug/L | | 97 | 68 - 130 |
| sec-Butylbenzene | 0.137 | 0.1288 | | ug/L | | 94 | 67 - 130 |
| Styrene | 0.106 | 0.1056 | | ug/L | | 99 | 70 - 130 |
| Tert-amyl-methyl ether (TAME) | 0.104 | 0.1134 | | ug/L | | 109 | 70 - 130 |
| tert-Butyl alcohol (TBA) | 0.152 | 0.1480 | | ug/L | | 98 | 65 - 132 |
| tert-Butylbenzene | 0.137 | 0.1288 | | ug/L | | 94 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 0.172 | 0.1622 | | ug/L | | 95 | 70 - 130 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 570-216715/3**
**Client Sample ID: Lab Control Sample**
**Matrix: Air**
**Prep Type: Total/NA**
**Analysis Batch: 216715**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 0.170 | 0.1757 | | ug/L | | 104 | 70 - 130 |
| Toluene | 0.0942 | 0.1001 | | ug/L | | 106 | 70 - 130 |
| t-1,2-Dichloroethene | 0.0991 | 0.1140 | | ug/L | | 115 | 70 - 130 |
| t-1,3-Dichloropropene | 0.113 | 0.1162 | | ug/L | | 102 | 66 - 142 |
| 1,2,4-Trichlorobenzene | 0.186 | 0.1583 | | ug/L | | 85 | 51 - 134 |
| 1,1,1-Trichloroethane | 0.136 | 0.1491 | | ug/L | | 109 | 67 - 135 |
| 1,1,2-Trichloroethane | 0.136 | 0.1486 | | ug/L | | 109 | 69 - 131 |
| Trichloroethene | 0.134 | 0.1417 | | ug/L | | 105 | 69 - 130 |
| Trichlorofluoromethane | 0.140 | 0.1545 | | ug/L | | 110 | 62 - 139 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.192 | 0.2061 | | ug/L | | 108 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 0.123 | 0.1075 | | ug/L | | 87 | 68 - 130 |
| 1,3,5-Trimethylbenzene | 0.123 | 0.1112 | | ug/L | | 90 | 69 - 130 |
| Vinyl acetate | 0.0880 | 0.08433 | | ug/L | | 96 | 64 - 139 |
| Vinyl chloride | 0.0639 | 0.06665 | | ug/L | | 104 | 65 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *66 - 132* |
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |

**Lab Sample ID: LCSD 570-216715/4**
**Client Sample ID: Lab Control Sample Dup**
**Matrix: Air**
**Prep Type: Total/NA**
**Analysis Batch: 216715**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.0594 | 0.05965 | | ug/L | | 100 | 70 - 130 | 5 | 25 |
| Benzene | 0.0799 | 0.08586 | | ug/L | | 108 | 68 - 134 | 3 | 25 |
| Benzyl chloride | 0.129 | 0.1028 | | ug/L | | 79 | 70 - 130 | 4 | 25 |
| Bromodichloromethane | 0.168 | 0.1748 | | ug/L | | 104 | 69 - 132 | 2 | 25 |
| Bromoform | 0.258 | 0.2457 | | ug/L | | 95 | 70 - 130 | 3 | 25 |
| Bromomethane | 0.0971 | 0.1052 | | ug/L | | 108 | 65 - 130 | 4 | 25 |
| 2-Butanone | 0.0737 | 0.07064 | | ug/L | | 96 | 66 - 143 | 4 | 25 |
| Carbon disulfide | 0.0779 | 0.09589 | | ug/L | | 123 | 70 - 130 | 4 | 25 |
| Carbon tetrachloride | 0.157 | 0.1702 | | ug/L | | 108 | 68 - 133 | 4 | 25 |
| Chlorobenzene | 0.115 | 0.1165 | | ug/L | | 101 | 70 - 130 | 4 | 25 |
| Chloroethane | 0.0660 | 0.06503 | | ug/L | | 99 | 66 - 134 | 4 | 25 |
| Chloroform | 0.122 | 0.1226 | | ug/L | | 100 | 67 - 131 | 4 | 25 |
| Chloromethane | 0.0516 | 0.04845 | | ug/L | | 94 | 60 - 137 | 5 | 25 |
| c-1,2-Dichloroethene | 0.0991 | 0.09893 | | ug/L | | 100 | 70 - 130 | 4 | 25 |
| c-1,3-Dichloropropene | 0.113 | 0.1107 | | ug/L | | 98 | 70 - 134 | 2 | 25 |
| Dibromochloromethane | 0.213 | 0.2168 | | ug/L | | 102 | 70 - 130 | 4 | 25 |
| 1,2-Dibromo-3-Chloropropane | 0.242 | 0.2125 | | ug/L | | 88 | 66 - 130 | 5 | 25 |
| 1,2-Dibromoethane | 0.192 | 0.1923 | | ug/L | | 100 | 70 - 130 | 4 | 25 |
| 1,2-Dichlorobenzene | 0.150 | 0.1245 | | ug/L | | 83 | 68 - 130 | 4 | 25 |
| 1,3-Dichlorobenzene | 0.150 | 0.1272 | | ug/L | | 85 | 65 - 130 | 2 | 25 |
| 1,4-Dichlorobenzene | 0.150 | 0.1239 | | ug/L | | 82 | 64 - 130 | 4 | 25 |
| Dichlorodifluoromethane | 0.124 | 0.1279 | | ug/L | | 103 | 57 - 138 | 4 | 25 |
| 1,1-Dichloroethane | 0.101 | 0.1018 | | ug/L | | 101 | 69 - 130 | 4 | 25 |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCSD 570-216715/4**
**Matrix: Air**
**Analysis Batch: 216715**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 0.101 | 0.09956 | | ug/L | | 98 | 65 - 136 | 4 | 25 |
| 1,1-Dichloroethene | 0.0991 | 0.09417 | | ug/L | | 95 | 64 - 135 | 4 | 25 |
| 1,2-Dichloropropane | 0.116 | 0.1224 | | ug/L | | 106 | 68 - 132 | 2 | 25 |
| Dichlorotetrafluoroethane | 0.175 | 0.1885 | | ug/L | | 108 | 60 - 133 | 3 | 25 |
| 1,1-Difluoroethane | 0.0675 | 0.05307 | | ug/L | | 79 | 57 - 146 | 13 | 25 |
| Di-isopropyl ether (DIPE) | 0.104 | 0.09793 | | ug/L | | 94 | 58 - 144 | 4 | 25 |
| Ethylbenzene | 0.109 | 0.1100 | | ug/L | | 101 | 70 - 130 | 3 | 25 |
| Ethyl-t-butyl ether (ETBE) | 0.104 | 0.1006 | | ug/L | | 96 | 67 - 130 | 5 | 25 |
| 4-Ethyltoluene | 0.123 | 0.1082 | | ug/L | | 88 | 69 - 130 | 3 | 25 |
| Hexachloro-1,3-butadiene | 0.267 | 0.2342 | | ug/L | | 88 | 58 - 130 | 4 | 25 |
| 2-Hexanone | 0.102 | 0.09655 | | ug/L | | 94 | 64 - 139 | 4 | 25 |
| Isopropanol | 0.0615 | 0.05464 | | ug/L | | 89 | 64 - 133 | 4 | 25 |
| Methylene Chloride | 0.0868 | 0.08612 | | ug/L | | 99 | 65 - 130 | 5 | 25 |
| 4-Methyl-2-pentanone | 0.102 | 0.1039 | | ug/L | | 101 | 65 - 135 | 3 | 25 |
| Methyl-t-Butyl Ether (MTBE) | 0.0901 | 0.09553 | | ug/L | | 106 | 70 - 130 | 3 | 25 |
| m,p-Xylene | 0.217 | 0.2096 | | ug/L | | 97 | 70 - 130 | 3 | 25 |
| Naphthalene | 0.131 | 0.1005 | | ug/L | | 77 | 36 - 146 | 6 | 25 |
| n-Butylbenzene | 0.137 | 0.1225 | | ug/L | | 89 | 64 - 130 | 3 | 25 |
| o-Xylene | 0.109 | 0.1014 | | ug/L | | 93 | 68 - 130 | 4 | 25 |
| sec-Butylbenzene | 0.137 | 0.1253 | | ug/L | | 91 | 67 - 130 | 3 | 25 |
| Styrene | 0.106 | 0.1021 | | ug/L | | 96 | 70 - 130 | 3 | 25 |
| Tert-amyl-methyl ether (TAME) | 0.104 | 0.1102 | | ug/L | | 106 | 70 - 130 | 3 | 25 |
| tert-Butyl alcohol (TBA) | 0.152 | 0.1414 | | ug/L | | 93 | 65 - 132 | 5 | 25 |
| tert-Butylbenzene | 0.137 | 0.1252 | | ug/L | | 91 | 70 - 130 | 3 | 25 |
| 1,1,2,2-Tetrachloroethane | 0.172 | 0.1556 | | ug/L | | 91 | 70 - 130 | 4 | 25 |
| Tetrachloroethene | 0.170 | 0.1655 | | ug/L | | 98 | 70 - 130 | 6 | 25 |
| Toluene | 0.0942 | 0.09667 | | ug/L | | 103 | 70 - 130 | 3 | 25 |
| t-1,2-Dichloroethene | 0.0991 | 0.1096 | | ug/L | | 111 | 70 - 130 | 4 | 25 |
| t-1,3-Dichloropropene | 0.113 | 0.1128 | | ug/L | | 99 | 66 - 142 | 3 | 25 |
| 1,2,4-Trichlorobenzene | 0.186 | 0.1666 | | ug/L | | 90 | 51 - 134 | 5 | 25 |
| 1,1,1-Trichloroethane | 0.136 | 0.1433 | | ug/L | | 105 | 67 - 135 | 4 | 25 |
| 1,1,2-Trichloroethane | 0.136 | 0.1426 | | ug/L | | 105 | 69 - 131 | 4 | 25 |
| Trichloroethene | 0.134 | 0.1379 | | ug/L | | 103 | 69 - 130 | 3 | 25 |
| Trichlorofluoromethane | 0.140 | 0.1484 | | ug/L | | 106 | 62 - 139 | 4 | 25 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.192 | 0.1977 | | ug/L | | 103 | 70 - 130 | 4 | 25 |
| 1,2,4-Trimethylbenzene | 0.123 | 0.1034 | | ug/L | | 84 | 68 - 130 | 4 | 25 |
| 1,3,5-Trimethylbenzene | 0.123 | 0.1073 | | ug/L | | 87 | 69 - 130 | 4 | 25 |
| Vinyl acetate | 0.0880 | 0.08031 | | ug/L | | 91 | 64 - 139 | 5 | 25 |
| Vinyl chloride | 0.0639 | 0.06336 | | ug/L | | 99 | 65 - 130 | 5 | 25 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *66 - 132* |
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |

# Marginal Exceedance (ME) Summary

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job ID: 570-86255-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: LCS 570-216579/4**
**Matrix: Air**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | %Rec | %Rec. Limits | ME %Rec. Limits | Marginal Exceedance Status |
|---|---|---|---|---|---|---|---|---|
| Acetone | 0.0594 | 0.06170 | | ug/L | 104 | 70 - 130 | 60 - 140 | |
| Benzene | 0.0799 | 0.08911 | | ug/L | 112 | 68 - 134 | 57 - 145 | |
| Benzyl chloride | 0.129 | 0.1384 | | ug/L | 107 | 70 - 130 | 60 - 140 | |
| Bromodichloromethane | 0.168 | 0.1847 | | ug/L | 110 | 69 - 132 | 59 - 143 | |
| Bromoform | 0.258 | 0.2830 | | ug/L | 110 | 70 - 130 | 60 - 140 | |
| Bromomethane | 0.0971 | 0.1095 | | ug/L | 113 | 65 - 130 | 54 - 141 | |
| 2-Butanone | 0.0737 | 0.07544 | | ug/L | 102 | 66 - 143 | 53 - 156 | |
| Carbon disulfide | 0.0779 | 0.1018 | *+ me | ug/L | 131 | 70 - 130 | 60 - 140 | ME |
| Carbon tetrachloride | 0.157 | 0.1774 | | ug/L | 113 | 68 - 133 | 57 - 144 | |
| Chlorobenzene | 0.115 | 0.1262 | | ug/L | 110 | 70 - 130 | 60 - 140 | |
| Chloroethane | 0.0660 | 0.06854 | | ug/L | 104 | 66 - 134 | 55 - 145 | |
| Chloroform | 0.122 | 0.1292 | | ug/L | 106 | 67 - 131 | 56 - 142 | |
| Chloromethane | 0.0516 | 0.05156 | | ug/L | 100 | 60 - 137 | 47 - 150 | |
| c-1,2-Dichloroethene | 0.0991 | 0.1032 | | ug/L | 104 | 70 - 130 | 60 - 140 | |
| c-1,3-Dichloropropene | 0.113 | 0.1172 | | ug/L | 103 | 70 - 134 | 59 - 145 | |
| Dibromochloromethane | 0.213 | 0.2387 | | ug/L | 112 | 70 - 130 | 60 - 140 | |
| 1,2-Dibromo-3-Chloropropane | 0.242 | 0.2622 | | ug/L | 109 | 66 - 130 | 55 - 141 | |
| 1,2-Dibromoethane | 0.192 | 0.2167 | | ug/L | 113 | 70 - 130 | 60 - 140 | |
| 1,2-Dichlorobenzene | 0.150 | 0.1624 | | ug/L | 108 | 68 - 130 | 58 - 140 | |
| 1,3-Dichlorobenzene | 0.150 | 0.1604 | | ug/L | 107 | 65 - 130 | 54 - 141 | |
| 1,4-Dichlorobenzene | 0.150 | 0.1616 | | ug/L | 107 | 64 - 130 | 53 - 141 | |
| Dichlorodifluoromethane | 0.124 | 0.1346 | | ug/L | 109 | 57 - 138 | 44 - 152 | |
| 1,1-Dichloroethane | 0.101 | 0.1066 | | ug/L | 105 | 69 - 130 | 59 - 140 | |
| 1,2-Dichloroethane | 0.101 | 0.1060 | | ug/L | 105 | 65 - 136 | 53 - 148 | |
| 1,1-Dichloroethene | 0.0991 | 0.09871 | | ug/L | 100 | 64 - 135 | 52 - 147 | |
| 1,2-Dichloropropane | 0.116 | 0.1255 | | ug/L | 109 | 68 - 132 | 57 - 143 | |
| Dichlorotetrafluoroethane | 0.175 | 0.1960 | | ug/L | 112 | 60 - 133 | 48 - 145 | |
| 1,1-Difluoroethane | 0.0675 | 0.05723 | | ug/L | 85 | 57 - 146 | 42 - 161 | |
| Di-isopropyl ether (DIPE) | 0.104 | 0.1035 | | ug/L | 99 | 58 - 144 | 44 - 158 | |
| Ethylbenzene | 0.109 | 0.1205 | | ug/L | 111 | 70 - 130 | 60 - 140 | |
| Ethyl-t-butyl ether (ETBE) | 0.104 | 0.1053 | | ug/L | 101 | 67 - 130 | 57 - 141 | |
| 4-Ethyltoluene | 0.123 | 0.1267 | | ug/L | 103 | 69 - 130 | 59 - 140 | |
| Hexachloro-1,3-butadiene | 0.267 | 0.2915 | | ug/L | 109 | 58 - 130 | 46 - 142 | |
| 2-Hexanone | 0.102 | 0.1074 | | ug/L | 105 | 64 - 139 | 52 - 152 | |
| Isopropanol | 0.0615 | 0.05748 | | ug/L | 94 | 64 - 133 | 53 - 145 | |
| Methylene Chloride | 0.0868 | 0.09044 | | ug/L | 104 | 65 - 130 | 54 - 141 | |
| 4-Methyl-2-pentanone | 0.102 | 0.1102 | | ug/L | 108 | 65 - 135 | 53 - 147 | |
| Methyl-t-Butyl Ether (MTBE) | 0.0901 | 0.09878 | | ug/L | 110 | 70 - 130 | 60 - 140 | |
| m,p-Xylene | 0.217 | 0.2332 | | ug/L | 107 | 70 - 130 | 60 - 140 | |
| Naphthalene | 0.131 | 0.1318 | | ug/L | 101 | 36 - 146 | 18 - 164 | |
| n-Butylbenzene | 0.137 | 0.1415 | | ug/L | 103 | 64 - 130 | 53 - 141 | |
| o-Xylene | 0.109 | 0.1146 | | ug/L | 106 | 68 - 130 | 58 - 140 | |
| sec-Butylbenzene | 0.137 | 0.1394 | | ug/L | 102 | 67 - 130 | 57 - 141 | |
| Styrene | 0.106 | 0.1184 | | ug/L | 111 | 70 - 130 | 60 - 140 | |
| Tert-amyl-methyl ether (TAME) | 0.104 | 0.1134 | | ug/L | 109 | 70 - 130 | 60 - 140 | |
| tert-Butyl alcohol (TBA) | 0.152 | 0.1506 | | ug/L | 99 | 65 - 132 | 54 - 143 | |
| tert-Butylbenzene | 0.137 | 0.1384 | | ug/L | 101 | 70 - 130 | 60 - 140 | |
| 1,1,2,2-Tetrachloroethane | 0.172 | 0.1853 | | ug/L | 108 | 70 - 130 | 60 - 140 | |
| Tetrachloroethene | 0.170 | 0.1847 | | ug/L | 109 | 70 - 130 | 60 - 140 | |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

### Lab Sample ID: LCS 570-216579/4

**Client Sample ID: Lab Control Sample**

**Matrix: Air**

**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | %Rec | %Rec. Limits | ME %Rec. Limits | Marginal Exceedance Status |
|---|---|---|---|---|---|---|---|---|
| Toluene | 0.0942 | 0.1046 | | ug/L | 111 | 70 - 130 | 60 - 140 | |
| t-1,2-Dichloroethene | 0.0991 | 0.1157 | | ug/L | 117 | 70 - 130 | 60 - 140 | |
| t-1,3-Dichloropropene | 0.113 | 0.1235 | | ug/L | 109 | 66 - 142 | 53 - 155 | |
| 1,2,4-Trichlorobenzene | 0.186 | 0.2047 | | ug/L | 110 | 51 - 134 | 37 - 148 | |
| 1,1,1-Trichloroethane | 0.136 | 0.1494 | | ug/L | 109 | 67 - 135 | 56 - 146 | |
| 1,1,2-Trichloroethane | 0.136 | 0.1519 | | ug/L | 111 | 69 - 131 | 59 - 141 | |
| Trichloroethene | 0.134 | 0.1451 | | ug/L | 108 | 69 - 130 | 59 - 140 | |
| Trichlorofluoromethane | 0.140 | 0.1555 | | ug/L | 111 | 62 - 139 | 49 - 152 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.192 | 0.2062 | | ug/L | 108 | 70 - 130 | 60 - 140 | |
| 1,2,4-Trimethylbenzene | 0.123 | 0.1249 | | ug/L | 102 | 68 - 130 | 58 - 140 | |
| 1,3,5-Trimethylbenzene | 0.123 | 0.1278 | | ug/L | 104 | 69 - 130 | 59 - 140 | |
| Vinyl acetate | 0.0880 | 0.08697 | | ug/L | 99 | 64 - 139 | 52 - 152 | |
| Vinyl chloride | 0.0639 | 0.06701 | | ug/L | 105 | 65 - 130 | 54 - 141 | |

**Summary**

| Number of Analytes Reported | Number of Marginal Exceedances Allowed | Number of Marginal Exceedances Found |
|---|---|---|
| 62 | 3 | 1 |

*ME = Marginal Exceedance*

### Lab Sample ID: LCSD 570-216579/5

**Client Sample ID: Lab Control Sample Dup**

**Matrix: Air**

**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | %Rec | %Rec. Limits | ME %Rec. Limits | Marginal Exceedance Status |
|---|---|---|---|---|---|---|---|---|
| Acetone | 0.0594 | 0.06471 | | ug/L | 109 | 70 - 130 | 60 - 140 | |
| Benzene | 0.0799 | 0.09048 | | ug/L | 113 | 68 - 134 | 57 - 145 | |
| Benzyl chloride | 0.129 | 0.1456 | | ug/L | 113 | 70 - 130 | 60 - 140 | |
| Bromodichloromethane | 0.168 | 0.1876 | | ug/L | 112 | 69 - 132 | 59 - 143 | |
| Bromoform | 0.258 | 0.2967 | | ug/L | 115 | 70 - 130 | 60 - 140 | |
| Bromomethane | 0.0971 | 0.1138 | | ug/L | 117 | 65 - 130 | 54 - 141 | |
| 2-Butanone | 0.0737 | 0.07788 | | ug/L | 106 | 66 - 143 | 53 - 156 | |
| Carbon disulfide | 0.0779 | 0.1049 | *+ me | ug/L | 135 | 70 - 130 | 60 - 140 | ME |
| Carbon tetrachloride | 0.157 | 0.1803 | | ug/L | 115 | 68 - 133 | 57 - 144 | |
| Chlorobenzene | 0.115 | 0.1324 | | ug/L | 115 | 70 - 130 | 60 - 140 | |
| Chloroethane | 0.0660 | 0.07138 | | ug/L | 108 | 66 - 134 | 55 - 145 | |
| Chloroform | 0.122 | 0.1341 | | ug/L | 110 | 67 - 131 | 56 - 142 | |
| Chloromethane | 0.0516 | 0.05344 | | ug/L | 104 | 60 - 137 | 47 - 150 | |
| c-1,2-Dichloroethene | 0.0991 | 0.1083 | | ug/L | 109 | 70 - 130 | 60 - 140 | |
| c-1,3-Dichloropropene | 0.113 | 0.1199 | | ug/L | 106 | 70 - 134 | 59 - 145 | |
| Dibromochloromethane | 0.213 | 0.2471 | | ug/L | 116 | 70 - 130 | 60 - 140 | |
| 1,2-Dibromo-3-Chloropropane | 0.242 | 0.2763 | | ug/L | 114 | 66 - 130 | 55 - 141 | |
| 1,2-Dibromoethane | 0.192 | 0.2235 | | ug/L | 116 | 70 - 130 | 60 - 140 | |
| 1,2-Dichlorobenzene | 0.150 | 0.1708 | | ug/L | 114 | 68 - 130 | 58 - 140 | |
| 1,3-Dichlorobenzene | 0.150 | 0.1599 | | ug/L | 106 | 65 - 130 | 54 - 141 | |
| 1,4-Dichlorobenzene | 0.150 | 0.1670 | | ug/L | 111 | 64 - 130 | 53 - 141 | |
| Dichlorodifluoromethane | 0.124 | 0.1386 | | ug/L | 112 | 57 - 138 | 44 - 152 | |
| 1,1-Dichloroethane | 0.101 | 0.1107 | | ug/L | 109 | 69 - 130 | 59 - 140 | |
| 1,2-Dichloroethane | 0.101 | 0.1100 | | ug/L | 109 | 65 - 136 | 53 - 148 | |
| 1,1-Dichloroethene | 0.0991 | 0.1032 | | ug/L | 104 | 64 - 135 | 52 - 147 | |

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCSD 570-216579/5** **Client Sample ID: Lab Control Sample Dup**

**Matrix: Air** **Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | %Rec | %Rec. Limits | ME %Rec. Limits | Marginal Exceedance Status |
|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 0.116 | 0.1280 | | ug/L | 111 | 68 - 132 | 57 - 143 | |
| Dichlorotetrafluoroethane | 0.175 | 0.2037 | | ug/L | 117 | 60 - 133 | 48 - 145 | |
| 1,1-Difluoroethane | 0.0675 | 0.06407 | | ug/L | 95 | 57 - 146 | 42 - 161 | |
| Di-isopropyl ether (DIPE) | 0.104 | 0.1058 | | ug/L | 101 | 58 - 144 | 44 - 158 | |
| Ethylbenzene | 0.109 | 0.1258 | | ug/L | 116 | 70 - 130 | 60 - 140 | |
| Ethyl-t-butyl ether (ETBE) | 0.104 | 0.1091 | | ug/L | 104 | 67 - 130 | 57 - 141 | |
| 4-Ethyltoluene | 0.123 | 0.1313 | | ug/L | 107 | 69 - 130 | 59 - 140 | |
| Hexachloro-1,3-butadiene | 0.267 | 0.3100 | | ug/L | 116 | 58 - 130 | 46 - 142 | |
| 2-Hexanone | 0.102 | 0.1109 | | ug/L | 108 | 64 - 139 | 52 - 152 | |
| Isopropanol | 0.0615 | 0.05992 | | ug/L | 98 | 64 - 133 | 53 - 145 | |
| Methylene Chloride | 0.0868 | 0.09401 | | ug/L | 108 | 65 - 130 | 54 - 141 | |
| 4-Methyl-2-pentanone | 0.102 | 0.1124 | | ug/L | 110 | 65 - 135 | 53 - 147 | |
| Methyl-t-Butyl Ether (MTBE) | 0.0901 | 0.1027 | | ug/L | 114 | 70 - 130 | 60 - 140 | |
| m,p-Xylene | 0.217 | 0.2423 | | ug/L | 112 | 70 - 130 | 60 - 140 | |
| Naphthalene | 0.131 | 0.1258 | | ug/L | 96 | 36 - 146 | 18 - 164 | |
| n-Butylbenzene | 0.137 | 0.1469 | | ug/L | 107 | 64 - 130 | 53 - 141 | |
| o-Xylene | 0.109 | 0.1190 | | ug/L | 110 | 68 - 130 | 58 - 140 | |
| sec-Butylbenzene | 0.137 | 0.1442 | | ug/L | 105 | 67 - 130 | 57 - 141 | |
| Styrene | 0.106 | 0.1220 | | ug/L | 115 | 70 - 130 | 60 - 140 | |
| Tert-amyl-methyl ether (TAME) | 0.104 | 0.1142 | | ug/L | 109 | 70 - 130 | 60 - 140 | |
| tert-Butyl alcohol (TBA) | 0.152 | 0.1564 | | ug/L | 103 | 65 - 132 | 54 - 143 | |
| tert-Butylbenzene | 0.137 | 0.1436 | | ug/L | 105 | 70 - 130 | 60 - 140 | |
| 1,1,2,2-Tetrachloroethane | 0.172 | 0.1950 | | ug/L | 114 | 70 - 130 | 60 - 140 | |
| Tetrachloroethene | 0.170 | 0.1951 | | ug/L | 115 | 70 - 130 | 60 - 140 | |
| Toluene | 0.0942 | 0.1089 | | ug/L | 116 | 70 - 130 | 60 - 140 | |
| t-1,2-Dichloroethene | 0.0991 | 0.1209 | | ug/L | 122 | 70 - 130 | 60 - 140 | |
| t-1,3-Dichloropropene | 0.113 | 0.1257 | | ug/L | 111 | 66 - 142 | 53 - 155 | |
| 1,2,4-Trichlorobenzene | 0.186 | 0.1982 | | ug/L | 107 | 51 - 134 | 37 - 148 | |
| 1,1,1-Trichloroethane | 0.136 | 0.1558 | | ug/L | 114 | 67 - 135 | 56 - 146 | |
| 1,1,2-Trichloroethane | 0.136 | 0.1549 | | ug/L | 114 | 69 - 131 | 59 - 141 | |
| Trichloroethene | 0.134 | 0.1475 | | ug/L | 110 | 69 - 130 | 59 - 140 | |
| Trichlorofluoromethane | 0.140 | 0.1617 | | ug/L | 115 | 62 - 139 | 49 - 152 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.192 | 0.2146 | | ug/L | 112 | 70 - 130 | 60 - 140 | |
| 1,2,4-Trimethylbenzene | 0.123 | 0.1306 | | ug/L | 106 | 68 - 130 | 58 - 140 | |
| 1,3,5-Trimethylbenzene | 0.123 | 0.1320 | | ug/L | 107 | 69 - 130 | 59 - 140 | |
| Vinyl acetate | 0.0880 | 0.09009 | | ug/L | 102 | 64 - 139 | 52 - 152 | |
| Vinyl chloride | 0.0639 | 0.06829 | | ug/L | 107 | 65 - 130 | 54 - 141 | |

**Summary**

| Number of Analytes Reported | Number of Marginal Exceedances Allowed | Number of Marginal Exceedances Found |
|---|---|---|
| 62 | 3 | 1 |

*ME = Marginal Exceedance*

# QC Association Summary

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job ID: 570-86255-1

## Air - GC/MS VOA

### Analysis Batch: 216579

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 570-86255-1 | SV1-5 | Total/NA | Air | TO-15 | |
| 570-86255-2 | SV1-15 | Total/NA | Air | TO-15 | |
| 570-86255-3 | SV2-5 | Total/NA | Air | TO-15 | |
| 570-86255-4 | SV2-15 | Total/NA | Air | TO-15 | |
| 570-86255-5 | SV3-5 | Total/NA | Air | TO-15 | |
| 570-86255-6 | SV3-15 | Total/NA | Air | TO-15 | |
| 570-86255-7 | SV4-5 | Total/NA | Air | TO-15 | |
| MB 570-216579/7 | Method Blank | Total/NA | Air | TO-15 | |
| LCS 570-216579/4 | Lab Control Sample | Total/NA | Air | TO-15 | |
| LCSD 570-216579/5 | Lab Control Sample Dup | Total/NA | Air | TO-15 | |

### Analysis Batch: 216715

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 570-86255-8 | SV4-15 | Total/NA | Air | TO-15 | |
| 570-86255-9 | SV5-5 | Total/NA | Air | TO-15 | |
| 570-86255-10 | SV5-15 | Total/NA | Air | TO-15 | |
| 570-86255-11 | SV6-5 | Total/NA | Air | TO-15 | |
| 570-86255-12 | SV6-15 | Total/NA | Air | TO-15 | |
| 570-86255-13 | SV7-5 | Total/NA | Air | TO-15 | |
| 570-86255-14 | SV7-15 | Total/NA | Air | TO-15 | |
| 570-86255-15 | SV8-5 | Total/NA | Air | TO-15 | |
| 570-86255-16 | SV8-15 | Total/NA | Air | TO-15 | |
| 570-86255-17 | SV9-5 | Total/NA | Air | TO-15 | |
| 570-86255-18 | SV9-15 | Total/NA | Air | TO-15 | |
| 570-86255-19 | SV10-5 | Total/NA | Air | TO-15 | |
| 570-86255-20 | SV10-15 | Total/NA | Air | TO-15 | |
| 570-86255-21 | DUP-1 | Total/NA | Air | TO-15 | |
| 570-86255-22 | DUP-2 | Total/NA | Air | TO-15 | |
| MB 570-216715/6 | Method Blank | Total/NA | Air | TO-15 | |
| LCS 570-216715/3 | Lab Control Sample | Total/NA | Air | TO-15 | |
| LCSD 570-216715/4 | Lab Control Sample Dup | Total/NA | Air | TO-15 | |

# Lab Chronicle

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job ID: 570-86255-1

## Client Sample ID: SV1-5

**Lab Sample ID: 570-86255-1**

**Date Collected: 03/01/22 08:33**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216579 | 03/02/22 13:11 | UJHY | ECL 2 |
| | Instrument ID: GCMSII | | | | | | | | | |

## Client Sample ID: SV1-15

**Lab Sample ID: 570-86255-2**

**Date Collected: 03/01/22 08:42**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216579 | 03/02/22 14:13 | UJHY | ECL 2 |
| | Instrument ID: GCMSII | | | | | | | | | |

## Client Sample ID: SV2-5

**Lab Sample ID: 570-86255-3**

**Date Collected: 03/01/22 08:23**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216579 | 03/02/22 15:05 | UJHY | ECL 2 |
| | Instrument ID: GCMSII | | | | | | | | | |

## Client Sample ID: SV2-15

**Lab Sample ID: 570-86255-4**

**Date Collected: 03/01/22 08:22**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216579 | 03/02/22 15:58 | UJHY | ECL 2 |
| | Instrument ID: GCMSII | | | | | | | | | |

## Client Sample ID: SV3-5

**Lab Sample ID: 570-86255-5**

**Date Collected: 03/01/22 10:50**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216579 | 03/02/22 16:57 | UJHY | ECL 2 |
| | Instrument ID: GCMSII | | | | | | | | | |

## Client Sample ID: SV3-15

**Lab Sample ID: 570-86255-6**

**Date Collected: 03/01/22 10:55**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216579 | 03/02/22 17:52 | UJHY | ECL 2 |
| | Instrument ID: GCMSII | | | | | | | | | |

# Lab Chronicle

## Client Sample ID: SV4-5

**Lab Sample ID: 570-86255-7**
**Date Collected: 03/01/22 08:53**
**Matrix: Air**
**Date Received: 03/01/22 13:35**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216579 | 03/02/22 18:44 | UJHY | ECL 2 |

Instrument ID: GCMSII

## Client Sample ID: SV4-15

**Lab Sample ID: 570-86255-8**
**Date Collected: 03/01/22 08:52**
**Matrix: Air**
**Date Received: 03/01/22 13:35**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 02:32 | UJHY | ECL 4 |

Instrument ID: GCMSII

## Client Sample ID: SV5-5

**Lab Sample ID: 570-86255-9**
**Date Collected: 03/01/22 10:49**
**Matrix: Air**
**Date Received: 03/01/22 13:35**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 03:23 | UJHY | ECL 4 |

Instrument ID: GCMSII

## Client Sample ID: SV5-15

**Lab Sample ID: 570-86255-10**
**Date Collected: 03/01/22 10:52**
**Matrix: Air**
**Date Received: 03/01/22 13:35**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 04:14 | UJHY | ECL 4 |

Instrument ID: GCMSII

## Client Sample ID: SV6-5

**Lab Sample ID: 570-86255-11**
**Date Collected: 03/01/22 10:18**
**Matrix: Air**
**Date Received: 03/01/22 13:35**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 05:07 | UJHY | ECL 4 |

Instrument ID: GCMSII

## Client Sample ID: SV6-15

**Lab Sample ID: 570-86255-12**
**Date Collected: 03/01/22 10:20**
**Matrix: Air**
**Date Received: 03/01/22 13:35**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 06:10 | UJHY | ECL 4 |

Instrument ID: GCMSII

## Client Sample ID: SV7-5

## Lab Sample ID: 570-86255-13

**Date Collected: 03/01/22 09:10**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 07:08 | UJHY | ECL 4 |
| | Instrument ID: GCMSII | | | | | | | | | |

## Client Sample ID: SV7-15

## Lab Sample ID: 570-86255-14

**Date Collected: 03/01/22 09:09**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 08:00 | UJHY | ECL 4 |
| | Instrument ID: GCMSII | | | | | | | | | |

## Client Sample ID: SV8-5

## Lab Sample ID: 570-86255-15

**Date Collected: 03/01/22 10:07**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 08:52 | UJHY | ECL 4 |
| | Instrument ID: GCMSII | | | | | | | | | |

## Client Sample ID: SV8-15

## Lab Sample ID: 570-86255-16

**Date Collected: 03/01/22 10:05**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 09:44 | UJHY | ECL 4 |
| | Instrument ID: GCMSII | | | | | | | | | |

## Client Sample ID: SV9-5

## Lab Sample ID: 570-86255-17

**Date Collected: 03/01/22 09:25**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 10:36 | UJHY | ECL 4 |
| | Instrument ID: GCMSII | | | | | | | | | |

## Client Sample ID: SV9-15

## Lab Sample ID: 570-86255-18

**Date Collected: 03/01/22 09:26**
**Date Received: 03/01/22 13:35**

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 11:29 | UJHY | ECL 4 |
| | Instrument ID: GCMSII | | | | | | | | | |

# Lab Chronicle

## Client Sample ID: SV10-5

**Lab Sample ID: 570-86255-19**
**Date Collected: 03/01/22 09:52**
**Matrix: Air**
**Date Received: 03/01/22 13:35**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 12:25 | UJHY | ECL 4 |
| | Instrument ID: | GCMSII | | | | | | | | |

## Client Sample ID: SV10-15

**Lab Sample ID: 570-86255-20**
**Date Collected: 03/01/22 09:47**
**Matrix: Air**
**Date Received: 03/01/22 13:35**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 13:17 | UJHY | ECL 4 |
| | Instrument ID: | GCMSII | | | | | | | | |

## Client Sample ID: DUP-1

**Lab Sample ID: 570-86255-21**
**Date Collected: 03/01/22 09:46**
**Matrix: Air**
**Date Received: 03/01/22 13:35**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 14:08 | UJHY | ECL 4 |
| | Instrument ID: | GCMSII | | | | | | | | |

## Client Sample ID: DUP-2

**Lab Sample ID: 570-86255-22**
**Date Collected: 03/01/22 10:50**
**Matrix: Air**
**Date Received: 03/01/22 13:35**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 250 mL | 250 mL | 216715 | 03/03/22 15:04 | UJHY | ECL 4 |
| | Instrument ID: | GCMSII | | | | | | | | |

**Laboratory References:**

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Equipoise Corporation
Project/Site: HMC - 1628  81st St., Los Angeles

Job ID: 570-86255-1

## Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Oregon | NELAP | CA300001 | 01-31-23 |

# Method Summary

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job ID: 570-86255-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| TO-15 | Volatile Organic Compounds in Ambient Air | EPA | ECL 2 |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

# Sample Summary

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job ID: 570-86255-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---|---|---|---|---|---|
| 570-86255-1 | SV1-5 | Air | 03/01/22 08:33 | 03/01/22 13:35 | Air Canister (1-Liter) #LC505 |
| 570-86255-2 | SV1-15 | Air | 03/01/22 08:42 | 03/01/22 13:35 | Air Canister (1-Liter) #LC922 |
| 570-86255-3 | SV2-5 | Air | 03/01/22 08:23 | 03/01/22 13:35 | Air Canister (1-Liter) #LC911 |
| 570-86255-4 | SV2-15 | Air | 03/01/22 08:22 | 03/01/22 13:35 | Air Canister (1-Liter) #LC867 |
| 570-86255-5 | SV3-5 | Air | 03/01/22 10:50 | 03/01/22 13:35 | Air Canister (1-Liter) #SLC078 |
| 570-86255-6 | SV3-15 | Air | 03/01/22 10:55 | 03/01/22 13:35 | Air Canister (1-Liter) #LC1102 |
| 570-86255-7 | SV4-5 | Air | 03/01/22 08:53 | 03/01/22 13:35 | Air Canister (1-Liter) #LC633 |
| 570-86255-8 | SV4-15 | Air | 03/01/22 08:52 | 03/01/22 13:35 | Air Canister (1-Liter) #LC759 |
| 570-86255-9 | SV5-5 | Air | 03/01/22 10:49 | 03/01/22 13:35 | Air Canister (1-Liter) #LC945 |
| 570-86255-10 | SV5-15 | Air | 03/01/22 10:52 | 03/01/22 13:35 | Air Canister (1-Liter) #LC1235 |
| 570-86255-11 | SV6-5 | Air | 03/01/22 10:18 | 03/01/22 13:35 | Air Canister (1-Liter) #LC619 |
| 570-86255-12 | SV6-15 | Air | 03/01/22 10:20 | 03/01/22 13:35 | Air Canister (1-Liter) #SLC110 |
| 570-86255-13 | SV7-5 | Air | 03/01/22 09:10 | 03/01/22 13:35 | Air Canister (1-Liter) #LC440 |
| 570-86255-14 | SV7-15 | Air | 03/01/22 09:09 | 03/01/22 13:35 | Air Canister (1-Liter) #LC784 |
| 570-86255-15 | SV8-5 | Air | 03/01/22 10:07 | 03/01/22 13:35 | Air Canister (1-Liter) #SLC003 |
| 570-86255-16 | SV8-15 | Air | 03/01/22 10:05 | 03/01/22 13:35 | Air Canister (1-Liter) #LC812 |
| 570-86255-17 | SV9-5 | Air | 03/01/22 09:25 | 03/01/22 13:35 | Air Canister (1-Liter) #LC682 |
| 570-86255-18 | SV9-15 | Air | 03/01/22 09:26 | 03/01/22 13:35 | Air Canister (1-Liter) #LC298 |
| 570-86255-19 | SV10-5 | Air | 03/01/22 09:52 | 03/01/22 13:35 | Air Canister (1-Liter) #LC246 |
| 570-86255-20 | SV10-15 | Air | 03/01/22 09:47 | 03/01/22 13:35 | Air Canister (1-Liter) #LC1076 |
| 570-86255-21 | DUP-1 | Air | 03/01/22 09:46 | 03/01/22 13:35 | Air Canister (1-Liter) #LC573 |
| 570-86255-22 | DUP-2 | Air | 03/01/22 10:50 | 03/01/22 13:35 | Air Canister (1-Liter) #LC204 |

## de Guia, Cecile

| | |
|---|---|
| **From:** | valery.naskrent@equipoisecorp.com |
| **Sent:** | Friday, March 4, 2022 12:21 PM |
| **To:** | de Guia, Cecile |
| **Subject:** | RE: Eurofins Calscience EDD and report files from 570-86255-1 HMC - 1628 81st St., Los Angeles |

EXTERNAL EMAIL*

Hi Cecile these results are in ppb. Could you please put them into ug/L?

---

Valery Naskrent, GIT
Project Geologist I
EQUIPOISE CORPORATION
2888 Loker Avenue East, Suite 109
Carlsbad, California 92010 USA
Office: 760.658.9889
Mobile: 619.888.8645
Environmental Solutions for the Blue Planet

---

**From:** Cecile de Guia <Cecile.deGuia@eurofinset.com>
**Sent:** Thursday, March 3, 2022 5:50 PM
**To:** Mark Cousineau <markc@hmcinc.biz>; Valery Naskrent <valery.naskrent@equipoisecorp.com>
**Subject:** Eurofins Calscience EDD and report files from 570-86255-1 HMC - 1628 81st St., Los Angeles

Hello,

Attached please find the EDD and report files for job 570-86255-1; HMC - 1628 81st St., Los Angeles

Please feel free to contact me if you have any questions.

Thank you.

**Cecile de Guia**
Project Manager

Eurofins Calscience
Phone: 714-895-5494

E-mail: Cecile.deGuia@eurofinset.com
www.eurofinsus.com/env

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

**eurofins** | Calscience

2841 Dow Avenue Suite 100 Tustin, Ca 92780 • (714) 895-5494

570-86255 Chain of Custody

# AIR CHAIN-OF-CUSTODY RECORD

DATE 3-1-22

PAGE 1 OF 3

LABORATORY CLIENT: Equipoise Corp
ADDRESS: 1311 Calle Batido
CITY: San Clemente STATE: CA ZIP:
TEL: E-MAIL: valery naskrent @ equipoisecorp.com

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD")
☐ SAME DAY ☐ 24 HR ☒ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD: ☐ COELT EDF ☐ OTHER
UNITS:

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO: HMC-1628 E 81st St, Los Angeles
P.O NO:
PROJECT CONTACT: Valery.Naskrent@equipoisecorp.com
LAB CONTACT OR ECI PROJECT NO:
PROJECT ADDRESS: 1628 E 81st St
SAMPLER(S): (PRINT) O.T. K.M
CITY: Los Angeles STATE: CA ZIP:

| LAB USE ONLY | SAMPLE ID | FIELD ID / POINT OF COLLECTION | MATRIX Indoor (I) Soil Vap. (SV) Ambient (A) | SAMPLING EQUIPMENT Media ID | Canister Size 6L or 1L | Flow Controller ID | START SAMPLING INFORMATION Date | Time (24 hr clock) | Canister Pressure (in Hg) | STOP SAMPLING INFORMATION Date | Time (24 hr clock) | Canister Pressure (in Hg) | REQUESTED ANALYSES VOCS - USEPA TO-15 oxygenates | 1,1-DFA | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SV1-5 | outdoor | SV | LC505 | 1L | SGM481 | 3/1/22 | 0829 | KM 27 | 3/1/22 | 0833 | 5 | X | X | | | |
| 2 | SV1-15 | ↓ | ↓ | LC922 | ↓ | SGM486 | ↓ | 0826 | 30 | ↓ | 0842 | 5 | X | X | | | |
| 3 | SV2-5 | | | LC911 | | SGM1102 | | 0818 | 30 | | 0823 | 5 | X | X | | | |
| 4 | SV2-15 | | | LC867 | | SGM555 | | 0818 | 30 | | 0822 | 5 | X | X | | | |
| 5 | SV3-5 | | | SLC078 | | SGM439 | | 1045 | 30 | | 1050 | 4 | X | X | | | |
| 6 | SV3-15 | | | LC1102 | | SGM354 | | 1050 | 30 | | 1055 | 5 | X | X | | | |
| 7 | SV4-5 | | | LC633 | | SGM446 | | 0847 | 30 | | 0853 | 5 | X | X | | | |
| 8 | SV4-15 | | | LC759 | | SGM112 | | 0847 | 30 | | 0852 | 5 | X | X | | | |
| 9 | SV5-5 | | | LC945 | | SGM482 | | 1045 | 30 | | 1049 | 5 | X | X | | | |
| 10 | SV5-15 | | | LC1249 | | SGM382 | | 1045 | 30 | | 1052 | 5 | X | X | | | |

| | | | |
|---|---|---|---|
| Relinquished by: (Signature) Kaelyn McFadden | Received by: (Signature/Affiliation) ECE | Date 3/1/22 | Time 1335 |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date. | Time |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date | Time |

2014-07-01 Revision

**eurofins** | Calscience

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## AIR CHAIN-OF-CUSTODY RECORD

DATE: 3/1/22

PAGE: 2 OF 3

| | |
|---|---|
| LABORATORY CLIENT: Equipoise Corp | CLIENT PROJECT NAME / NO.: HMC-1628 E 81ST St |
| ADDRESS: 1311 Calle Batido | P.O. NO.: |
| CITY: San Clemente STATE: ZIP: | PROJECT CONTACT: Valery Naskrent |
| TEL.: E-MAIL: valery.naskrent@equipoisecorp.com | LAB CONTACT OR ECI PROJECT NO: |
| | PROJECT ADDRESS: 1628 E 81ST St |
| | SAMPLER(S). (PRINT): D.T. K.M. |
| | CITY: Los Angeles STATE: ZIP: |

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☒ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD: ☐ COELT EDF ☐ OTHER

UNITS:

SPECIAL INSTRUCTIONS:

| LAB USE ONLY | SAMPLE ID | FIELD ID / POINT OF COLLECTION | MATRIX Indoor (I) Soil Vap. (SV) Ambient (A) | SAMPLING EQUIPMENT Media ID | Canister Size 6L or 1L | Flow Controller ID | START SAMPLING INFORMATION Date | Time (24 hr clock) | Canister Pressure (in Hg) | STOP SAMPLING INFORMATION Date | Time (24 hr clock) | Canister Pressure (in Hg) | REQUESTED ANALYSES VOCS - USEPA TO-15 [illegible] | 1,1 DFA | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | SV6-5 | Outdoor | SV | LC619 | 1L | SGM025 | 3/1/22 | 1013 | 30 | 3/1/22 | 1018 | 4 | X | + | | | |
| 12 | SV6-15 | ↓ | ↓ | SLC110 | ↓ | SGM500 | ↓ | 1014 | 30 | ↓ | 1020 | 5 | X | X | | | |
| 13 | SV7-5 | | | LC440 | | SGM018A | | 0903 | 30 | | 0910 | 7.5 | X | X | | | |
| 14 | SV7-15 | | | LC784 | | SGM440 | | 0904 | 30 | | 0909 | 5 | X | X | | | |
| 15 | SV8-5 | | | SLC003 | | SGM104 | | 1000 | 30 | | 1007 | 5 | X | X | | | |
| 16 | SV8-15 | | | LC812 | | SGM017 | | 1000 | 30 | | 1005 | 5 | X | X | | | |
| 17 | SV9-5 | | | LC682 | | SGM106 | | 0920 | 30 | | 0925 | 5 | X | X | | | |
| 18 | SV9-15 | | | LC298 | | SGM379 | | 0920 | 30 | | 0926 | 5 | X | X | | | |
| 19 | SV10-5 | | | LC246 | | SGM213 | | 0946 | 30 | | 0952 | 5 | X | X | | | |
| 20 | SV10-15 | | | LC1076 | | SGM289 | | 0940 | 30 | | 0947 | 5 | X | X | | | |

| | | | |
|---|---|---|---|
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: 3/1/22 | Time: 1335 |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |

2014-07-01 Revision

eurofins | Calscience

2841 Dow Avenue Suite 100, Tustin, Ca 92780 • (714) 895-5494

# AIR CHAIN-OF-CUSTODY RECORD

DATE: 3/1/22

PAGE: 3 OF 3

| | | | |
|---|---|---|---|
| LABORATORY CLIENT: Equipoise Corp | | CLIENT PROJECT NAME / NO. 1628 E 81st St - HMC | P.O. NO. |
| ADDRESS: 1311 Calle Batido | | PROJECT CONTACT: valery.naskrent@equipoisecorp.com | LAB CONTACT OR ECI PROJECT NO. |
| CITY: STATE: ZIP: | | PROJECT ADDRESS: | SAMPLER(S) (PRINT) O.T.<br>K.M. |
| TEL. | E-MAIL. | CITY: STATE: ZIP: | |

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☒ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD: ☐ COELT EDF ☐ OTHER

UNITS:

SPECIAL INSTRUCTIONS:

| | | | MATRIX | SAMPLING EQUIPMENT | | | START SAMPLING INFORMATION | | | STOP SAMPLING INFORMATION | | | REQUESTED ANALYSES | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LAB USE ONLY | SAMPLE ID | FIELD ID / POINT OF COLLECTION | Indoor (I) Soil Vap. (SV) Ambient (A) | Media ID | Canister Size 6L or 1L | Flow Controller ID | Date | Time (24 hr clock) | Canister Pressure (in Hg) | Date | Time (24 hr clock) | Canister Pressure (in Hg) | VOCS oxygenates USEPA TO-15 | 1,1 DFA | | | |
| 21 | DUP-1 | outdoor | SV | LC573 | 1L | SGM484 | 3/1/22 | 0940 | 30 | 3/1/22 | 0946 | 5 | X | + | | | |
| 22 | DUP-2 | outdoor | SV | LC204 | 1L | SGM025 | 3/1/22 | 1045 | 30 | 3/1/22 | 1050 | 5 | X | + | | | |
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| | | | |
|---|---|---|---|
| Relinquished by: (Signature) Kaelyn McFadde | Received by: (Signature/Affiliation) | Date: 3/1/22 | Time: 1335 |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date | Time: |

2014-07-01 Revision

# Login Sample Receipt Checklist

Client: Equipoise Corporation

Job Number: 570-86255-1

**Login Number: 86255**
**List Number: 1**
**Creator: Cruise, Noel**

**List Source: Eurofins Calscience**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | False | Thermal preservation not required. |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | False | Refer to Job Narrative for details. |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

# Summa Canister Dilution Worksheet

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job No.: 570-86255-1

| Lab Sample ID | Canister Volume (L) | Presampling Pressure ("Hg) | Preadjusted Pressure ("Hg) | Preadjusted Pressure (atm) | Preadjusted Volume (L) | Adjusted Pressure (psig) | Adjusted Pressure (atm) | Adjusted Volume (L) | Initial Volume (mL) | Dilution Factor | Final Dilution Factor | Pressure Gauge ID | Date | Analyst Initials |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 570-86255-1 | 1 | -29.5 | -1.4 | 0.95 | 0.95 | -0.687616 | 0.95 | 0.95 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:29 | QD3U |
| 570-86255-2 | 1 | -29.5 | -0.4 | 0.99 | 0.99 | -0.196462 | 0.99 | 0.99 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:30 | QD3U |
| 570-86255-3 | 1 | -29.5 | 0 | 1.00 | 1.00 | 0 | 1.00 | 1.00 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:30 | QD3U |
| 570-86255-4 | 1 | -29.5 | -2.2 | 0.93 | 0.93 | -1.08054 | 0.93 | 0.93 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:30 | QD3U |
| 570-86255-5 | 1 | -29.5 | -4.8 | 0.84 | 0.84 | -2.35754 | 0.84 | 0.84 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:30 | QD3U |
| 570-86255-6 | 1 | -29.5 | -3.4 | 0.89 | 0.89 | -1.66992 | 0.89 | 0.89 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:30 | QD3U |
| 570-86255-7 | 1 | -29.5 | -0.6 | 0.98 | 0.98 | -0.294692 | 0.98 | 0.98 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:31 | QD3U |
| 570-86255-8 | 1 | -29.5 | -0.4 | 0.99 | 0.99 | -0.196462 | 0.99 | 0.99 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:31 | QD3U |
| 570-86255-9 | 1 | -29.5 | -1.4 | 0.95 | 0.95 | -0.687616 | 0.95 | 0.95 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:31 | QD3U |
| 570-86255-10 | 1 | -29.5 | -1.2 | 0.96 | 0.96 | -0.589385 | 0.96 | 0.96 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:31 | QD3U |
| 570-86255-11 | 1 | -29.5 | -2.2 | 0.93 | 0.93 | -1.08054 | 0.93 | 0.93 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:31 | QD3U |
| 570-86255-12 | 1 | -29.5 | -6.0 | 0.80 | 0.80 | -2.94692 | 0.80 | 0.80 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:31 | QD3U |
| 570-86255-13 | 1 | -29.5 | -4.4 | 0.85 | 0.85 | -2.16108 | 0.85 | 0.85 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:32 | QD3U |
| 570-86255-14 | 1 | -29.5 | -2.0 | 0.93 | 0.93 | -0.982308 | 0.93 | 0.93 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:32 | QD3U |

# Summa Canister Dilution Worksheet

Client: Equipoise Corporation
Project/Site: HMC - 1628 81st St., Los Angeles

Job No.: 570-86255-1

| Lab Sample ID | Canister Volume (L) | Presampling Pressure ("Hg) | Preadjusted Pressure ("Hg) | Preadjusted Pressure (atm) | Preadjusted Volume (L) | Adjusted Pressure (psig) | Adjusted Pressure (atm) | Adjusted Volume (L) | Initial Volume (mL) | Dilution Factor | Final Dilution Factor | Pressure Gauge ID | Date | Analyst Initials |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 570-86255-15 | 1 | -29.5 | -1.0 | 0.97 | 0.97 | -0.491154 | 0.97 | 0.97 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:32 | QD3U |
| 570-86255-16 | 1 | -29.5 | -0.8 | 0.97 | 0.97 | -0.392923 | 0.97 | 0.97 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:32 | QD3U |
| 570-86255-17 | 1 | -29.5 | -1.8 | 0.94 | 0.94 | -0.884077 | 0.94 | 0.94 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:32 | QD3U |
| 570-86255-18 | 1 | -29.5 | -1.8 | 0.94 | 0.94 | -0.884077 | 0.94 | 0.94 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:32 | QD3U |
| 570-86255-19 | 1 | -29.5 | -3.1 | 0.90 | 0.90 | -1.52258 | 0.90 | 0.90 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:32 | QD3U |
| 570-86255-20 | 1 | -29.5 | -1.4 | 0.95 | 0.95 | -0.687616 | 0.95 | 0.95 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:33 | QD3U |
| 570-86255-21 | 1 | -29.5 | 0.407204 | 1.01 | 1.01 | 0.2 | 1.01 | 1.01 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:33 | QD3U |
| 570-86255-22 | 1 | -29.5 | -3.8 | 0.87 | 0.87 | -1.86639 | 0.87 | 0.87 | | 1.00 | 1.00 | AIR MG-6 | 03/02/22 19:33 | QD3U |

**Formulae:**

Preadjusted Volume (L) = ((Preadjusted Pressure ("Hg) + 29.92 "Hg) * Vol L ) / 29.92 "Hg
Adjusted Volume (L) = (( Adjusted Pressure (psig) + 14.7 psig )* Vol L ) / 14.7 psig
Dilution Factor = Adjusted Volume (L) / Preadjusted Volume (L)

**Where:**

29.92 "Hg = Standard atmospheric pressure in inches of Mercury ("Hg)
14.7 psig = Standard atmospheric pressure in pounds per square inch gauge (psig)

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

02 March 2022

Valery Naskrent
Equipoise Corporation
1311 Calle Batido, Suite 260
San Clemente, CA 92673

RE: 1628 E. 81st Street, Los Angeles

Enclosed are the results of analyses for samples received by the laboratory on 02/28/22 16:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Joann Marroquin

Joann Marroquin
Director of Operations

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## ANALYTICAL REPORT FOR SAMPLES

| **Sample ID** | **Laboratory ID** | **Matrix** | **Date Sampled** | **Date Received** |
|---|---|---|---|---|
| SB-2-2.5 | T220536-01 | Soil | 02/28/22 07:10 | 02/28/22 16:40 |
| SB-2-10 | T220536-03 | Soil | 02/28/22 07:30 | 02/28/22 16:40 |
| SB-1-2.5 | T220536-05 | Soil | 02/28/22 08:15 | 02/28/22 16:40 |
| SB-1-10 | T220536-07 | Soil | 02/28/22 08:30 | 02/28/22 16:40 |
| SB-4-2.5 | T220536-09 | Soil | 02/28/22 09:00 | 02/28/22 16:40 |
| SB-4-10 | T220536-11 | Soil | 02/28/22 09:25 | 02/28/22 16:40 |
| SB-9-2.5 | T220536-13 | Soil | 02/28/22 10:15 | 02/28/22 16:40 |
| SB-9-10 | T220536-15 | Soil | 02/28/22 10:30 | 02/28/22 16:40 |
| SB-10-2.5 | T220536-17 | Soil | 02/28/22 10:55 | 02/28/22 16:40 |
| SB-10-10 | T220536-19 | Soil | 02/28/22 11:20 | 02/28/22 16:40 |
| SB-7-2.5 | T220536-21 | Soil | 02/28/22 12:30 | 02/28/22 16:40 |
| SB-7-10 | T220536-23 | Soil | 02/28/22 12:45 | 02/28/22 16:40 |
| SB-8-2.5 | T220536-25 | Soil | 02/28/22 13:25 | 02/28/22 16:40 |
| SB-8-10 | T220536-27 | Soil | 02/28/22 13:40 | 02/28/22 16:40 |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## DETECTIONS SUMMARY

**Sample ID:** SB-2-2.5 **Laboratory ID:** T220536-01

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **74** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.4** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **7.2** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **10** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **6.6** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **26** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **37** | 1.0 | mg/kg | EPA 6010b | |
| Acetone | **13** | 2.5 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-2-10 **Laboratory ID:** T220536-03

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **120** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **13** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **9.0** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **14** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **9.5** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **35** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **45** | 1.0 | mg/kg | EPA 6010b | |
| Benzene | **2.7** | 2.2 | ug/kg | EPA 8260B/5035 | |
| Acetone | **6.4** | 2.2 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-1-2.5 **Laboratory ID:** T220536-05

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **80** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.7** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **7.8** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **10** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **6.9** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **27** | 5.0 | mg/kg | EPA 6010b | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

**Sample ID:** SB-1-2.5 **Laboratory ID:** T220536-05

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Zinc | **37** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB-1-10 **Laboratory ID:** T220536-07

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **100** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **13** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **8.9** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **14** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **9.0** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **33** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **45** | 1.0 | mg/kg | EPA 6010b | |
| Benzene | **2.7** | 2.5 | ug/kg | EPA 8260B/5035 | |
| Acetone | **9.9** | 2.5 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-4-2.5 **Laboratory ID:** T220536-09

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **93** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **13** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **9.3** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **13** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **8.8** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **33** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **46** | 1.0 | mg/kg | EPA 6010b | |
| Benzene | **2.5** | 2.5 | ug/kg | EPA 8260B/5035 | |
| Acetone | **14** | 2.5 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-4-10 **Laboratory ID:** T220536-11

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **110** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **13** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **9.5** | 2.0 | mg/kg | EPA 6010b | |

Joann Marroquin

|  |  |  |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

**Sample ID:** SB-4-10 **Laboratory ID:** T220536-11

| **Analyte** | **Result** | **Reporting Limit** | **Units** | **Method** | **Notes** |
|---|---|---|---|---|---|
| Copper | **15** | 1.0 | mg/kg | EPA 6010b |  |
| Nickel | **9.6** | 2.0 | mg/kg | EPA 6010b |  |
| Vanadium | **34** | 5.0 | mg/kg | EPA 6010b |  |
| Zinc | **48** | 1.0 | mg/kg | EPA 6010b |  |
| Benzene | **4.8** | 2.5 | ug/kg | EPA 8260B/5035 |  |
| Acetone | **14** | 2.5 | ug/kg | EPA 8260B/5035 |  |

**Sample ID:** SB-9-2.5 **Laboratory ID:** T220536-13

| **Analyte** | **Result** | **Reporting Limit** | **Units** | **Method** | **Notes** |
|---|---|---|---|---|---|
| Barium | **84** | 1.0 | mg/kg | EPA 6010b |  |
| Chromium | **11** | 2.0 | mg/kg | EPA 6010b |  |
| Cobalt | **8.2** | 2.0 | mg/kg | EPA 6010b |  |
| Copper | **13** | 1.0 | mg/kg | EPA 6010b |  |
| Lead | **3.8** | 3.0 | mg/kg | EPA 6010b |  |
| Nickel | **8.0** | 2.0 | mg/kg | EPA 6010b |  |
| Vanadium | **30** | 5.0 | mg/kg | EPA 6010b |  |
| Zinc | **41** | 1.0 | mg/kg | EPA 6010b |  |
| Acetone | **13** | 2.0 | ug/kg | EPA 8260B/5035 |  |

**Sample ID:** SB-9-10 **Laboratory ID:** T220536-15

| **Analyte** | **Result** | **Reporting Limit** | **Units** | **Method** | **Notes** |
|---|---|---|---|---|---|
| Barium | **91** | 1.0 | mg/kg | EPA 6010b |  |
| Chromium | **11** | 2.0 | mg/kg | EPA 6010b |  |
| Cobalt | **7.8** | 2.0 | mg/kg | EPA 6010b |  |
| Copper | **13** | 1.0 | mg/kg | EPA 6010b |  |
| Nickel | **7.5** | 2.0 | mg/kg | EPA 6010b |  |
| Vanadium | **29** | 5.0 | mg/kg | EPA 6010b |  |
| Zinc | **37** | 1.0 | mg/kg | EPA 6010b |  |
| Benzene | **3.0** | 2.3 | ug/kg | EPA 8260B/5035 |  |
| Acetone | **8.1** | 2.3 | ug/kg | EPA 8260B/5035 |  |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

**Sample ID:** SB-10-2.5 **Laboratory ID:** T220536-17

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **75** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.2** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **7.2** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **8.5** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **6.2** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **26** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **35** | 1.0 | mg/kg | EPA 6010b | |
| Mercury | **0.13** | 0.10 | mg/kg | EPA 7471A Soil | |
| Acetone | **9.8** | 2.5 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-10-10 **Laboratory ID:** T220536-19

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **91** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **15** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **11** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **20** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **4.0** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **12** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **38** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **48** | 1.0 | mg/kg | EPA 6010b | |
| Benzene | **2.0** | 2.0 | ug/kg | EPA 8260B/5035 | |
| Acetone | **6.7** | 2.0 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-7-2.5 **Laboratory ID:** T220536-21

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **91** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **11** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **8.6** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **13** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **7.8** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **30** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **42** | 1.0 | mg/kg | EPA 6010b | |
| Benzene | **4.0** | 2.5 | ug/kg | EPA 8260B/5035 | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

**Sample ID:** SB-7-2.5 **Laboratory ID:** T220536-21

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Acetone | **15** | 2.5 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-7-10 **Laboratory ID:** T220536-23

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **120** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **14** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **11** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **17** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **11** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **40** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **46** | 1.0 | mg/kg | EPA 6010b | |
| Benzene | **3.2** | 2.1 | ug/kg | EPA 8260B/5035 | |
| Acetone | **6.0** | 2.1 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-8-2.5 **Laboratory ID:** T220536-25

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **54** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **7.2** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **5.6** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **7.3** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **5.0** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **22** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **27** | 1.0 | mg/kg | EPA 6010b | |
| Acetone | **9.2** | 2.5 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-8-10 **Laboratory ID:** T220536-27

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **110** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **11** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **9.1** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **12** | 1.0 | mg/kg | EPA 6010b | |

Joann Marroquin

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

**Sample ID:** SB-8-10 **Laboratory ID:** T220536-27

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Nickel | **8.0** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **31** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **38** | 1.0 | mg/kg | EPA 6010b | |
| Acetone | **4.4** | 2.2 | ug/kg | EPA 8260B/5035 | |

|  |  |  |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-2-2.5

### T220536-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** |  |  |  |  |  |  |  |  |  |
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** |  |  |  |  |  |  |  |  |  |
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 |  |
| *Surrogate: a,a,a-Trifluorotoluene* |  | *91.7 %* | *65-135* |  | " | " | " | " |  |
| **Extractable Petroleum Hydrocarbons by 8015B** |  |  |  |  |  |  |  |  |  |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/01/22 | EPA 8015B |  |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " |  |
| *Surrogate: p-Terphenyl* |  | *95.9 %* | *65-135* |  | " | " | " | " |  |
| **Metals by EPA 6010B** |  |  |  |  |  |  |  |  |  |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b |  |
| Silver | ND | 2.0 | " | " | " | " | 03/02/22 | " |  |
| Arsenic | ND | 5.0 | " | " | " | " | 03/02/22 | " |  |
| **Barium** | **74** | 1.0 | " | " | " | " | 03/02/22 | " |  |
| Beryllium | ND | 1.0 | " | " | " | " | " | " |  |
| Cadmium | ND | 2.0 | " | " | " | " | 03/02/22 | " |  |
| **Chromium** | **9.4** | 2.0 | " | " | " | " | 03/02/22 | " |  |
| **Cobalt** | **7.2** | 2.0 | " | " | " | " | 03/02/22 | " |  |
| **Copper** | **10** | 1.0 | " | " | " | " | 03/02/22 | " |  |
| Lead | ND | 3.0 | " | " | " | " | 03/02/22 | " |  |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " |  |
| **Nickel** | **6.6** | 2.0 | " | " | " | " | " | " |  |
| Selenium | ND | 5.0 | " | " | " | " | " | " |  |
| Thallium | ND | 5.0 | " | " | " | " | 03/02/22 | " |  |
| **Vanadium** | **26** | 5.0 | " | " | " | " | " | " |  |
| **Zinc** | **37** | 1.0 | " | " | " | " | " | " |  |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-2-2.5

### T220536-01 (Soil)

### SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromoform | ND | 2.5 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Chloroform | ND | 2.5 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-2-2.5

### T220536-01 (Soil)

**SunStar Laboratories, Inc.**

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " | |
| Methylene chloride | ND | 10 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Styrene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " | |
| Benzene | ND | 2.5 | " | " | " | " | " | " | |
| Toluene | ND | 2.5 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " | |

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|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-2-2.5

### T220536-01 (Soil)

**SunStar Laboratories, Inc.**

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| **Acetone** | **13** | 2.5 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *96.0 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *112 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *106 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-2-10

### T220536-03 (Soil)

### SunStar Laboratories, Inc.

**Purgeable Petroleum Hydrocarbons by EPA 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C6-C12 (GRO) | ND | 210 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *73.9 %* | *65-135* | | " | " | " | " | |

**Extractable Petroleum Hydrocarbons by 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/01/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | D-06 |
| *Surrogate: p-Terphenyl* | | *86.0 %* | *65-135* | | " | " | " | " | |

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **120** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **13** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **9.0** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **14** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **9.5** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **35** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **45** | 1.0 | " | " | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-2-10

### T220536-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 2.2 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.2 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.2 | " | " | " | " | " | " | |
| Bromoform | ND | 2.2 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.2 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.2 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Chloroform | ND | 2.2 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.2 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.2 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.2 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 4.5 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.2 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-2-10

### T220536-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.2 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.2 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.2 | " | " | " | " | " | " | |
| Methylene chloride | ND | 8.9 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.2 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Styrene | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.2 | " | " | " | " | " | " | |
| **Benzene** | **2.7** | 2.2 | " | " | " | " | " | " | |
| Toluene | ND | 2.2 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 4.5 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.2 | " | " | " | " | " | " | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-2-10

### T220536-03 (Soil)

**SunStar Laboratories, Inc.**

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 8.9 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 22 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 8.9 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 8.9 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 8.9 | " | " | " | " | " | " | |
| **Acetone** | **6.4** | 2.2 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 4.5 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 4.5 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.2 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *97.6 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *110 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *108 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

Joann Marroquin

Joann Marroquin, Director of Operations

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

|  |  |  |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-1-2.5

### T220536-05 (Soil)

**SunStar Laboratories, Inc.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** | | | | | | | | | |
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *84.2 %* | *65-135* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015B** | | | | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/01/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *92.9 %* | *65-135* | | " | " | " | " | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **80** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **9.7** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **7.8** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **10** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **6.9** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **27** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **37** | 1.0 | " | " | " | " | " | " | |

Joann Marroquin

|  |  |  |  |
|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-1-2.5

### T220536-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** |  |  |  |  |  |  |  |  |  |
| **Cold Vapor Extraction EPA 7470/7471** |  |  |  |  |  |  |  |  |  |
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil |  |
| **Volatile Organic Compounds by EPA Method 8260B** |  |  |  |  |  |  |  |  | **M-04** |
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/02/22 | EPA 8260B/5035 |  |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " |  |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " |  |
| Bromoform | ND | 2.5 | " | " | " | " | " | " |  |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " |  |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " |  |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " |  |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " |  |
| Chloroform | ND | 2.5 | " | " | " | " | " | " |  |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " |  |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " |  |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " |  |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " |  |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " |  |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " |  |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " |  |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " |  |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " |  |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " |  |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " |  |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-1-2.5

### T220536-05 (Soil)

### SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | **M-04** |
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/02/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " | |
| Methylene chloride | ND | 10 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Styrene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " | |
| Benzene | ND | 2.5 | " | " | " | " | " | " | |
| Toluene | ND | 2.5 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-1-2.5

### T220536-05 (Soil)

### SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | **M-04** |
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/02/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Acetone | ND | 2.5 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *85.6 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *81.4 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *131 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

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## SB-1-10

### T220536-07 (Soil)

### SunStar Laboratories, Inc.

**Purgeable Petroleum Hydrocarbons by EPA 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *82.8 %* | *65-135* | | *"* | *"* | *"* | *"* | |

**Extractable Petroleum Hydrocarbons by 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/01/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | D-06 |
| *Surrogate: p-Terphenyl* | | *99.3 %* | *65-135* | | *"* | *"* | *"* | *"* | |

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **100** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | 03/02/22 | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Chromium** | **13** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **8.9** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **14** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **9.0** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **33** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **45** | 1.0 | " | " | " | " | " | " | |

## SB-1-10

### T220536-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

### SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromoform | ND | 2.5 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Chloroform | ND | 2.5 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
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| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-1-10

### T220536-07 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " | |
| Methylene chloride | ND | 10 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Styrene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " | |
| **Benzene** | **2.7** | 2.5 | " | " | " | " | " | " | |
| Toluene | ND | 2.5 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " | |

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| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-1-10

### T220536-07 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| **Acetone** | **9.9** | 2.5 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *94.8 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *108 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *113 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-4-2.5

### T220536-09 (Soil)

### SunStar Laboratories, Inc.

#### Purgeable Petroleum Hydrocarbons by EPA 8015B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *78.5 %* | *65-135* | | " | " | " | " | |

#### Extractable Petroleum Hydrocarbons by 8015B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/01/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *99.6 %* | *65-135* | | " | " | " | " | |

#### Metals by EPA 6010B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **93** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | 03/02/22 | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Chromium** | **13** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **9.3** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **13** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **8.8** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **33** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **46** | 1.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-4-2.5

### T220536-09 (Soil)

**SunStar Laboratories, Inc.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromoform | ND | 2.5 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Chloroform | ND | 2.5 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-4-2.5

### T220536-09 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " | |
| Methylene chloride | ND | 10 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Styrene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " | |
| **Benzene** | **2.5** | 2.5 | " | " | " | " | " | " | |
| Toluene | ND | 2.5 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-4-2.5

### T220536-09 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| **Acetone** | **14** | 2.5 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *97.8 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *115 %* | *85.9-114* | | *"* | *"* | *"* | *"* | *S-13* |
| *Surrogate: Dibromofluoromethane* | | *110 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

| | | | |
|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-4-10

### T220536-11 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** | | | | | | | | | |
| C6-C12 (GRO) | ND | 220 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *79.3 %* | *65-135* | | *"* | *"* | *"* | *"* | |
| **Extractable Petroleum Hydrocarbons by 8015B** | | | | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/01/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | D-06 |
| *Surrogate: p-Terphenyl* | | *92.9 %* | *65-135* | | *"* | *"* | *"* | *"* | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **110** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **13** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **9.5** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **15** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **9.6** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **34** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **48** | 1.0 | " | " | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-4-10

### T220536-11 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **SunStar Laboratories, Inc.** | | | | | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | **M-04** |
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/02/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromoform | ND | 2.5 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Chloroform | ND | 2.5 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |

Joann Marroquin

## SB-4-10

### T220536-11 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | **M-04** |
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/02/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " | |
| Methylene chloride | ND | 10 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Styrene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " | |
| **Benzene** | **4.8** | 2.5 | " | " | " | " | " | " | |
| Toluene | ND | 2.5 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-4-10

### T220536-11 (Soil)

**SunStar Laboratories, Inc.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | **M-04** |
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/02/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| **Acetone** | **14** | 2.5 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *89.5 %* | *76.1-127* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *91.9 %* | *85.9-114* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *105 %* | *77.8-142* | | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-9-2.5

### T220536-13 (Soil)

**SunStar Laboratories, Inc.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** | | | | | | | | | |
| C6-C12 (GRO) | ND | 210 | ug/kg | 1 | 2030146 | 03/01/22 | 03/02/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *87.0 %* | *65-135* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015B** | | | | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/01/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *98.0 %* | *65-135* | | " | " | " | " | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **84** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **11** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **8.2** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **13** | 1.0 | " | " | " | " | " | " | |
| **Lead** | **3.8** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **8.0** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **30** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **41** | 1.0 | " | " | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-9-2.5

### T220536-13 (Soil)

**SunStar Laboratories, Inc.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 2.0 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.0 | " | " | " | " | " | " | |
| Bromoform | ND | 2.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.0 | " | " | " | " | " | " | |
| Chloroform | ND | 2.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 4.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.0 | " | " | " | " | " | " | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-9-2.5

### T220536-13 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

**SunStar Laboratories, Inc.**

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.0 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 8.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| Styrene | ND | 2.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.0 | " | " | " | " | " | " | |
| Benzene | ND | 2.0 | " | " | " | " | " | " | |
| Toluene | ND | 2.0 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 4.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.0 | " | " | " | " | " | " | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-9-2.5

## T220536-13 (Soil)

### SunStar Laboratories, Inc.

### Volatile Organic Compounds by EPA Method 8260B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 8.0 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 8.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 8.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 8.0 | " | " | " | " | " | " | |
| **Acetone** | **13** | 2.0 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 4.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 4.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.0 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *96.3 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *112 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *111 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

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|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-9-10

### T220536-15 (Soil)

**SunStar Laboratories, Inc.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** | | | | | | | | | |
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *80.2 %* | *65-135* | | *"* | *"* | *"* | *"* | |
| **Extractable Petroleum Hydrocarbons by 8015B** | | | | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/01/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | D-06 |
| *Surrogate: p-Terphenyl* | | *99.6 %* | *65-135* | | *"* | *"* | *"* | *"* | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **91** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **11** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **7.8** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **13** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.5** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **29** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **37** | 1.0 | " | " | " | " | " | " | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-9-10

### T220536-15 (Soil)

**SunStar Laboratories, Inc.**

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene | ND | 2.3 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.3 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.3 | " | " | " | " | " | " | |
| Bromoform | ND | 2.3 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.3 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.3 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.3 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.3 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.3 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.3 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.3 | " | " | " | " | " | " | |
| Chloroform | ND | 2.3 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.3 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.3 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.3 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.3 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 4.5 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.3 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.3 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.3 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.3 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.3 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.3 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.3 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.3 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.3 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.3 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.3 | " | " | " | " | " | " | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-9-10

### T220536-15 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

**SunStar Laboratories, Inc.**

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.3 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA<br>8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.3 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.3 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.3 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.3 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.3 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.3 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.3 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.3 | " | " | " | " | " | " | |
| Methylene chloride | ND | 9.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.3 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.3 | " | " | " | " | " | " | |
| Styrene | ND | 2.3 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.3 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.3 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.3 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.3 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.3 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.3 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.3 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.3 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.3 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.3 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.3 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.3 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.3 | " | " | " | " | " | " | |
| **Benzene** | **3.0** | 2.3 | " | " | " | " | " | " | |
| Toluene | ND | 2.3 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.3 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 4.5 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.3 | " | " | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-9-10

### T220536-15 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **SunStar Laboratories, Inc.** | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 9.0 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 23 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 9.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 9.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 9.0 | " | " | " | " | " | " | |
| **Acetone** | **8.1** | 2.3 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 4.5 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 4.5 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.3 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *98.0 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *110 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *114 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

Joann Marroquin

| | | | |
|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-10-2.5

### T220536-17 (Soil)

### SunStar Laboratories, Inc.

**Purgeable Petroleum Hydrocarbons by EPA 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *82.7 %* | *65-135* | | *"* | *"* | *"* | *"* | |

**Extractable Petroleum Hydrocarbons by 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/02/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *98.3 %* | *65-135* | | *"* | *"* | *"* | *"* | |

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **75** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | 03/02/22 | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Chromium** | **9.2** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **7.2** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **8.5** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **6.2** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **26** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **35** | 1.0 | " | " | " | " | " | " | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-10-2.5

### T220536-17 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **SunStar Laboratories, Inc.** | | | | | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| **Mercury** | **0.13** | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromoform | ND | 2.5 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Chloroform | ND | 2.5 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-10-2.5

## T220536-17 (Soil)

**SunStar Laboratories, Inc.**

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " | |
| Methylene chloride | ND | 10 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Styrene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " | |
| Benzene | ND | 2.5 | " | " | " | " | " | " | |
| Toluene | ND | 2.5 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-10-2.5

### T220536-17 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| **Acetone** | **9.8** | 2.5 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *95.7 %* | *76.1-127* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *111 %* | *85.9-114* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *112 %* | *77.8-142* | | " | " | " | " | |

Joann Marroquin

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-10-10

### T220536-19 (Soil)

**SunStar Laboratories, Inc.**

**Purgeable Petroleum Hydrocarbons by EPA 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 |  |
| *Surrogate: a,a,a-Trifluorotoluene* |  | *79.4 %* | *65-135* |  | " | " | " | " |  |

**Extractable Petroleum Hydrocarbons by 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/02/22 | EPA 8015B | D-06 |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | D-06 |
| *Surrogate: p-Terphenyl* |  | *96.9 %* | *65-135* |  | " | " | " | " |  |

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b |  |
| Silver | ND | 2.0 | " | " | " | " | " | " |  |
| Arsenic | ND | 5.0 | " | " | " | " | " | " |  |
| **Barium** | **91** | 1.0 | " | " | " | " | " | " |  |
| Beryllium | ND | 1.0 | " | " | " | " | 03/02/22 | " |  |
| Cadmium | ND | 2.0 | " | " | " | " | 03/02/22 | " |  |
| **Chromium** | **15** | 2.0 | " | " | " | " | " | " |  |
| **Cobalt** | **11** | 2.0 | " | " | " | " | " | " |  |
| **Copper** | **20** | 1.0 | " | " | " | " | " | " |  |
| **Lead** | **4.0** | 3.0 | " | " | " | " | " | " |  |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " |  |
| **Nickel** | **12** | 2.0 | " | " | " | " | " | " |  |
| Selenium | ND | 5.0 | " | " | " | " | " | " |  |
| Thallium | ND | 5.0 | " | " | " | " | " | " |  |
| **Vanadium** | **38** | 5.0 | " | " | " | " | " | " |  |
| **Zinc** | **48** | 1.0 | " | " | " | " | " | " |  |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-10-10

### T220536-19 (Soil)

**SunStar Laboratories, Inc.**

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene | ND | 2.0 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.0 | " | " | " | " | " | " | |
| Bromoform | ND | 2.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.0 | " | " | " | " | " | " | |
| Chloroform | ND | 2.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 3.9 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.0 | " | " | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-10-10

### T220536-19 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.0 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 7.8 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| Styrene | ND | 2.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.0 | " | " | " | " | " | " | |
| **Benzene** | **2.0** | 2.0 | " | " | " | " | " | " | |
| Toluene | ND | 2.0 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.0 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 3.9 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-10-10

### T220536-19 (Soil)

### SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 7.8 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 7.8 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 7.8 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 7.8 | " | " | " | " | " | " | |
| **Acetone** | **6.7** | 2.0 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 3.9 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 3.9 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.0 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *98.8 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *112 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *114 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

Joann Marroquin

Joann Marroquin, Director of Operations

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| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-7-2.5

### T220536-21 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** | | | | | | | | | |
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *77.6 %* | *65-135* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015B** | | | | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/02/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *91.4 %* | *65-135* | | " | " | " | " | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | 03/02/22 | " | |
| Arsenic | ND | 5.0 | " | " | " | " | 03/02/22 | " | |
| **Barium** | **91** | 1.0 | " | " | " | " | 03/02/22 | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Chromium** | **11** | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Cobalt** | **8.6** | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Copper** | **13** | 1.0 | " | " | " | " | 03/02/22 | " | |
| Lead | ND | 3.0 | " | " | " | " | 03/02/22 | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.8** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | 03/02/22 | " | |
| **Vanadium** | **30** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **42** | 1.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-7-2.5

### T220536-21 (Soil)

### SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromoform | ND | 2.5 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Chloroform | ND | 2.5 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-7-2.5

### T220536-21 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " | |
| Methylene chloride | ND | 10 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Styrene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " | |
| **Benzene** | **4.0** | 2.5 | " | " | " | " | " | " | |
| Toluene | ND | 2.5 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-7-2.5

## T220536-21 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| **Acetone** | **15** | 2.5 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *98.1 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *111 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *113 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-7-10

### T220536-23 (Soil)

### SunStar Laboratories, Inc.

**Purgeable Petroleum Hydrocarbons by EPA 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C6-C12 (GRO) | ND | 200 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *74.0 %* | *65-135* | | *"* | *"* | *"* | *"* | |

**Extractable Petroleum Hydrocarbons by 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/02/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | D-06 |
| *Surrogate: p-Terphenyl* | | *88.2 %* | *65-135* | | *"* | *"* | *"* | *"* | |

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **120** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **14** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **11** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **17** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **11** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **40** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **46** | 1.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-7-10

### T220536-23 (Soil)

### SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 2.1 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.1 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.1 | " | " | " | " | " | " | |
| Bromoform | ND | 2.1 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.1 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.1 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.1 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.1 | " | " | " | " | " | " | |
| Chloroform | ND | 2.1 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.1 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.1 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.1 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 4.2 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.1 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.1 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.1 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.1 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.1 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.1 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.1 | " | " | " | " | " | " | |

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|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-7-10

### T220536-23 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.1 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.1 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.1 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.1 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.1 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.1 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.1 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.1 | " | " | " | " | " | " | |
| Methylene chloride | ND | 8.5 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.1 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| Styrene | ND | 2.1 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.1 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.1 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.1 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.1 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.1 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.1 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.1 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.1 | " | " | " | " | " | " | |
| **Benzene** | **3.2** | 2.1 | " | " | " | " | " | " | |
| Toluene | ND | 2.1 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 4.2 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.1 | " | " | " | " | " | " | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-7-10

### T220536-23 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 8.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 21 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 8.5 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 8.5 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 8.5 | " | " | " | " | " | " | |
| **Acetone** | **6.0** | 2.1 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 4.2 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 4.2 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.1 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *99.1 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *110 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *112 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-8-2.5

### T220536-25 (Soil)

**SunStar Laboratories, Inc.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** | | | | | | | | | |
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *78.2 %* | *65-135* | | *"* | *"* | *"* | *"* | |
| **Extractable Petroleum Hydrocarbons by 8015B** | | | | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/02/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *104 %* | *65-135* | | *"* | *"* | *"* | *"* | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **54** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **7.2** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **5.6** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **7.3** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **5.0** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **22** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **27** | 1.0 | " | " | " | " | " | " | |

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-8-2.5

### T220536-25 (Soil)

### SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromoform | ND | 2.5 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Chloroform | ND | 2.5 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## SB-8-2.5

### T220536-25 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " | |
| Methylene chloride | ND | 10 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Styrene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " | |
| Benzene | ND | 2.5 | " | " | " | " | " | " | |
| Toluene | ND | 2.5 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-8-2.5

### T220536-25 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| **Acetone** | **9.2** | 2.5 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *96.7 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *110 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *115 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-8-10

### T220536-27 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** | | | | | | | | | |
| C6-C12 (GRO) | ND | 210 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *74.0 %* | *65-135* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015B** | | | | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030140 | 03/01/22 | 03/02/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | D-06 |
| *Surrogate: p-Terphenyl* | | *99.0 %* | *65-135* | | " | " | " | " | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030143 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **110** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | 03/02/22 | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Chromium** | **11** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **9.1** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **12** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **8.0** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **31** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **38** | 1.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-8-10

### T220536-27 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2030144 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 2.2 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.2 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.2 | " | " | " | " | " | " | |
| Bromoform | ND | 2.2 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.2 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.2 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Chloroform | ND | 2.2 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.2 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.2 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.2 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 4.4 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.2 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-8-10

### T220536-27 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.2 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.2 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.2 | " | " | " | " | " | " | |
| Methylene chloride | ND | 8.9 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.2 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Styrene | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.2 | " | " | " | " | " | " | |
| Benzene | ND | 2.2 | " | " | " | " | " | " | |
| Toluene | ND | 2.2 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 4.4 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.2 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## SB-8-10

### T220536-27 (Soil)

**SunStar Laboratories, Inc.**

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 8.9 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 22 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 8.9 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 8.9 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 8.9 | " | " | " | " | " | " | |
| **Acetone** | **4.4** | 2.2 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 4.4 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 4.4 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.2 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *96.8 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *112 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *113 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

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|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## Purgeable Petroleum Hydrocarbons by EPA 8015B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030146 - EPA 5035 GC** | | | | | | | | | | |
| **Blank (2030146-BLK1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| C6-C12 (GRO) | ND | 250 | ug/kg | | | | | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *168* | | " | *200* | | *83.9* | *65-135* | | | |
| **LCS (2030146-BS1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| C6-C12 (GRO) | 10000 | 250 | ug/kg | 11000 | | 91.4 | 75-125 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *191* | | " | *200* | | *95.7* | *65-135* | | | |
| **LCS Dup (2030146-BSD1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| C6-C12 (GRO) | 10500 | 250 | ug/kg | 11000 | | 95.1 | 75-125 | 3.99 | 20 | |
| *Surrogate: a,a,a-Trifluorotoluene* | *200* | | " | *200* | | *100* | *65-135* | | | |

Joann Marroquin

## Extractable Petroleum Hydrocarbons by 8015B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030140 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (2030140-BLK1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | | | | | | | |
| C13-C28 (DRO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *95.7* | | *"* | *100* | | *95.7* | *65-135* | | | |
| **LCS (2030140-BS1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| C13-C28 (DRO) | 540 | 10 | mg/kg | 500 | | 109 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *92.7* | | *"* | *100* | | *92.7* | *65-135* | | | |
| **LCS Dup (2030140-BSD1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| C13-C28 (DRO) | 510 | 10 | mg/kg | 500 | | 103 | 75-125 | 5.74 | 20 | |
| *Surrogate: p-Terphenyl* | *92.0* | | *"* | *100* | | *92.0* | *65-135* | | | |

## Metals by EPA 6010B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030143 - EPA 3050B** | | | | | | | | | | |
| **Blank (2030143-BLK1)** | | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| Antimony | ND | 3.0 | mg/kg | | | | | | | |
| Silver | ND | 2.0 | " | | | | | | | |
| Arsenic | ND | 5.0 | " | | | | | | | |
| Barium | ND | 1.0 | " | | | | | | | |
| Beryllium | ND | 1.0 | " | | | | | | | |
| Cadmium | ND | 2.0 | " | | | | | | | |
| Chromium | ND | 2.0 | " | | | | | | | |
| Cobalt | ND | 2.0 | " | | | | | | | |
| Copper | ND | 1.0 | " | | | | | | | |
| Lead | ND | 3.0 | " | | | | | | | |
| Molybdenum | ND | 5.0 | " | | | | | | | |
| Nickel | ND | 2.0 | " | | | | | | | |
| Selenium | ND | 5.0 | " | | | | | | | |
| Thallium | ND | 5.0 | " | | | | | | | |
| Vanadium | ND | 5.0 | " | | | | | | | |
| Zinc | ND | 1.0 | " | | | | | | | |
| **LCS (2030143-BS1)** | | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| Arsenic | 88.2 | 5.0 | mg/kg | 100 | | 88.2 | 75-125 | | | |
| Barium | 87.6 | 1.0 | " | 100 | | 87.6 | 75-125 | | | |
| Cadmium | 88.1 | 2.0 | " | 100 | | 88.1 | 75-125 | | | |
| Chromium | 87.2 | 2.0 | " | 100 | | 87.2 | 75-125 | | | |
| Lead | 88.9 | 3.0 | " | 100 | | 88.9 | 75-125 | | | |
| **Matrix Spike (2030143-MS1)** | **Source: T220536-01** | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| Arsenic | 72.8 | 5.0 | mg/kg | 100 | ND | 72.8 | 75-125 | | | QM-05 |
| Barium | 145 | 1.0 | " | 100 | 74.4 | 70.7 | 75-125 | | | QM-05 |
| Cadmium | 70.6 | 2.0 | " | 100 | 0.312 | 70.3 | 75-125 | | | QM-05 |
| Chromium | 78.4 | 2.0 | " | 100 | 9.37 | 69.1 | 75-125 | | | QM-05 |
| Lead | 69.3 | 3.0 | " | 100 | 2.07 | 67.2 | 75-125 | | | QM-05 |

## Metals by EPA 6010B - Quality Control

## SunStar Laboratories, Inc.

**Batch 2030143 - EPA 3050B**

**Matrix Spike Dup (2030143-MSD1)** **Source: T220536-01** Prepared: 03/01/22 Analyzed: 03/02/22

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 72.0 | 5.0 | mg/kg | 100 | ND | 72.0 | 75-125 | 1.20 | 20 | QM-05 |
| Barium | 141 | 1.0 | " | 100 | 74.4 | 66.4 | 75-125 | 3.05 | 20 | QM-05 |
| Cadmium | 70.6 | 2.0 | " | 100 | 0.312 | 70.3 | 75-125 | 0.0612 | 20 | QM-05 |
| Chromium | 77.6 | 2.0 | " | 100 | 9.37 | 68.2 | 75-125 | 1.10 | 20 | QM-05 |
| Lead | 68.8 | 3.0 | " | 100 | 2.07 | 66.7 | 75-125 | 0.793 | 20 | QM-05 |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/02/22 16:28 |

## Cold Vapor Extraction EPA 7470/7471 - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030144 - EPA 7471A Soil** | | | | | | | | | | |
| **Blank (2030144-BLK1)** | | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| Mercury | ND | 0.10 | mg/kg | | | | | | | |
| **LCS (2030144-BS1)** | | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| Mercury | 0.407 | 0.10 | mg/kg | 0.417 | | 97.7 | 80-120 | | | |
| **Matrix Spike (2030144-MS1)** | **Source: T220536-01** | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| Mercury | 0.431 | 0.10 | mg/kg | 0.410 | ND | 105 | 75-125 | | | |
| **Matrix Spike Dup (2030144-MSD1)** | **Source: T220536-01** | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| Mercury | 0.502 | 0.10 | mg/kg | 0.417 | ND | 120 | 75-125 | 15.2 | 20 | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | | |
|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030147 - EPA 5035 GCMS** | | | | | | | | | | |
| **Blank (2030147-BLK1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| Bromobenzene | ND | 2.5 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 2.5 | " | | | | | | | |
| Bromodichloromethane | ND | 2.5 | " | | | | | | | |
| Bromoform | ND | 2.5 | " | | | | | | | |
| Bromomethane | ND | 2.5 | " | | | | | | | |
| n-Butylbenzene | ND | 2.5 | " | | | | | | | |
| sec-Butylbenzene | ND | 2.5 | " | | | | | | | |
| tert-Butylbenzene | ND | 2.5 | " | | | | | | | |
| Carbon tetrachloride | ND | 2.5 | " | | | | | | | |
| Chlorobenzene | ND | 2.5 | " | | | | | | | |
| Chloroethane | ND | 2.5 | " | | | | | | | |
| Chloroform | ND | 2.5 | " | | | | | | | |
| Chloromethane | ND | 2.5 | " | | | | | | | |
| 2-Chlorotoluene | ND | 2.5 | " | | | | | | | |
| 4-Chlorotoluene | ND | 2.5 | " | | | | | | | |
| Dibromochloromethane | ND | 2.5 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | | | | | | | |
| Dibromomethane | ND | 2.5 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 2.5 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 2.5 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 2.5 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 2.5 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 2.5 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 2.5 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 2.5 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 2.5 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | | | | | | | |
| Hexachlorobutadiene | ND | 2.5 | " | | | | | | | |
| Isopropylbenzene | ND | 2.5 | " | | | | | | | |

| | | | |
|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/02/22 16:28 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

**Batch 2030147 - EPA 5035 GCMS**

**Blank (2030147-BLK1)** Prepared & Analyzed: 03/01/22

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | ND | 2.5 | ug/kg | | | | | | | |
| Methylene chloride | ND | 10 | " | | | | | | | |
| Naphthalene | ND | 2.5 | " | | | | | | | |
| n-Propylbenzene | ND | 2.5 | " | | | | | | | |
| Styrene | ND | 2.5 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | | | | | | | |
| Tetrachloroethene | ND | 2.5 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | | | | | | | |
| Trichloroethene | ND | 2.5 | " | | | | | | | |
| Trichlorofluoromethane | ND | 2.5 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | | | | | | | |
| Vinyl chloride | ND | 2.5 | " | | | | | | | |
| Benzene | ND | 2.5 | " | | | | | | | |
| Toluene | ND | 2.5 | " | | | | | | | |
| Ethylbenzene | ND | 2.5 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 2.5 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 10 | " | | | | | | | |
| Tert-butyl alcohol | ND | 25 | " | | | | | | | |
| Di-isopropyl ether | ND | 10 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 10 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 10 | " | | | | | | | |
| Acetone | ND | 2.5 | " | | | | | | | |
| Methyl ethyl ketone | ND | 5.0 | " | | | | | | | |
| Methyl isobutyl ketone | ND | 5.0 | " | | | | | | | |
| 2-Hexanone (MBK) | ND | 2.5 | " | | | | | | | |
| *Surrogate: Toluene-d8* | *47.2* | | *"* | *50.0* | | *94.5* | *76.1-127* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *56.2* | | *"* | *50.0* | | *112* | *85.9-114* | | | |
| *Surrogate: Dibromofluoromethane* | *49.8* | | *"* | *50.0* | | *99.6* | *77.8-142* | | | |

Equipoise Corporation
1311 Calle Batido, Suite 260
San Clemente CA, 92673

Project: 1628 E. 81st Street, Los Angeles
Project Number: [none]
Project Manager: Valery Naskrent

**Reported:**
03/02/22 16:28

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030147 - EPA 5035 GCMS** | | | | | | | | | | |
| **LCS (2030147-BS1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| Chlorobenzene | 46.4 | 2.5 | ug/kg | 50.0 | | 92.8 | 79.1-117 | | | |
| 1,1-Dichloroethene | 47.9 | 2.5 | " | 50.0 | | 95.8 | 68-126 | | | |
| Trichloroethene | 54.5 | 2.5 | " | 50.0 | | 109 | 80.6-119 | | | |
| Benzene | 50.2 | 2.5 | " | 50.0 | | 100 | 79.1-117 | | | |
| Toluene | 49.3 | 2.5 | " | 50.0 | | 98.5 | 79.5-118 | | | |
| *Surrogate: Toluene-d8* | *47.5* | | *"* | *50.0* | | *94.9* | *76.1-127* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *56.1* | | *"* | *50.0* | | *112* | *85.9-114* | | | |
| *Surrogate: Dibromofluoromethane* | *46.1* | | *"* | *50.0* | | *92.2* | *77.8-142* | | | |
| **LCS Dup (2030147-BSD1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| Chlorobenzene | 47.4 | 2.5 | ug/kg | 50.0 | | 94.8 | 79.1-117 | 2.13 | 20 | |
| 1,1-Dichloroethene | 50.4 | 2.5 | " | 50.0 | | 101 | 68-126 | 5.03 | 20 | |
| Trichloroethene | 56.6 | 2.5 | " | 50.0 | | 113 | 80.6-119 | 3.84 | 20 | |
| Benzene | 50.8 | 2.5 | " | 50.0 | | 102 | 79.1-117 | 1.11 | 20 | |
| Toluene | 51.0 | 2.5 | " | 50.0 | | 102 | 79.5-118 | 3.39 | 20 | |
| *Surrogate: Toluene-d8* | *47.3* | | *"* | *50.0* | | *94.6* | *76.1-127* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *57.0* | | *"* | *50.0* | | *114* | *85.9-114* | | | |
| *Surrogate: Dibromofluoromethane* | *45.8* | | *"* | *50.0* | | *91.5* | *77.8-142* | | | |

## Notes and Definitions

| | |
|---|---|
| S-13 | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of surrogates in client samples and remaining QC including CCV. |
| QM-05 | The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected. |
| M-04 | Multiple analysis yielded low internal standard/or surrogate recoveries due to matrix effect. Low internal standard results may cause a potential high bias in sample results. |
| D-06 | The sample chromatographic pattern does not resemble the fuel standard used for quantitation. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

# Chain of Custody Record

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Client: Equipoise Corp.
Address: San clemente.
Phone: Fax:
Project Manager: Valery Naskrent

Date: 2/28/2022 Page: 1 Of 2
Project Name: 81st LA
Collector: Oscar Teller Client Project #:
Batch #: T220536 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | Container Type | 8260B/5035 TPH as gasoline C4-C12 | 8260B ~~OXY~~/5035 VOC's + oxy's | 8260 BTEX, OXY only | 8270 | 8021 BTEX | 8015M (gasoline) | 8015B (diesel) C13-C22 | 8015M Ext./Carbon Chain | ~~6010/7000 Title 22 Metals~~ | 6020 ICP-MS Metals | 8015B (motor oil) C17-C44 | 6010B/7471A title 22 metals + Mercury. | | Laboratory ID # | Comments/Preservative | Total # of containers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB-2-2.5 | 2/28/22 | 0710 | Soil | Voas/sleeve | X | X | | | | | X | | | | X | X | | 01 | | 6 |
| SB-2-5 | | 0715 | | | X | X | | | | | X | | | | X | - | | 02 | Hold | 6 |
| SB-2-10 | | 0730 | | | X | X | | | | | X | | | | X | X | | 03 | | 6 |
| SB-2-15 | | 0735 | | | X | X | | | | | X | | | | X | X | | 04 | Hold | 6 |
| SB-1-2.5 | | 0815 | | | X | X | | | | | X | | | | X | X | | 05 | | 6 |
| SB-1-5 | | 0820 | | | X | X | | | | | X | | | | X | X | | 06 | Hold | 6 |
| SB-1-10 | | 0830 | | | X | X | | | | | X | | | | X | X | | 07 | | 6 |
| SB-1-15 | | 0840 | | | X | X | | | | | X | | | | X | X | | 08 | Hold | 6 |
| SB-4-2.5 | | 0900 | | | X | X | | | | | X | | | | X | X | | 09 | | 6 |
| SB-4-5 | | 0915 | | | X | X | | | | | X | | | | X | X | | 10 | Hold | 6 |
| SB-4-10 | | 0925 | | | X | X | | | | | X | | | | X | X | | 11 | | 6 |
| SB-4-15 | | 0945 | | | X | X | | | | | X | | | | X | X | | 12 | Hold | 6 |
| SB-9-2.5 | | 1015 | | | X | X | | | | | X | | | | X | X | | 13 | | 6 |
| SB-9-5 | | 1020 | | | X | X | | | | | X | | | | X | X | | 14 | Hold | 6 |
| SB-9-10 | 2/28/22 | 1030 | | Voas/sleeve. | X | X | | | | | X | | | | X | X | | 15 | | 6 |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Date / Time |
|---|---|---|---|
| | 2/28/22 1352 | | 2-28-22 1352 |
| | 2-28-22 16:40 | | 2-28-22 16:40 |
| | | | |

Total # of containers
Chain of Custody seals Y/[✓ N]/NA
Seals intact? Y/N/[✓ NA]
Received good condition/cold 1.1°C

Turn around time: 48hr

Notes

The samples at depth 5 and 15ft were mark as Hold in Comments.

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

# Chain of Custody Record

**SunStar Laboratories, Inc.**
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Client: Equipoise Corporation.
Address:
Phone: Fax:
Project Manager:

Date: 2/28/2022 Page: 2 Of 2
Project Name:
Collector: Client Project #:
Batch #: T220536 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | Container Type | 8260B/5035 TPH as Gas C4-C12 | 8260 ~~B OXY~~/5035 VOA's + oxy's | 8260 BTEX, OXY only | 8270 | 8021 BTEX | 8015M (gasoline) | 8015B (diesel) C13-C22 | 8015M Ext./Carbon Chain | 6010/7000 Title 22 Metals | 6020 ICP-MS Metals | 8015B (motor oil) C17-C44 | 6010B/7471A title 22 + Mercury. | | Laboratory ID # | Comments/Preservative | Total # of containers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB-9-15 | 2/28/22 | 1035 | Soil | VOA's n sleeve | X | / | | | | | X | | | | X | X | | 16 | Hold | 6 |
| SB-10-2.5 | | 1055 | | | X | / | | | | | X | | | | X | X | | 17 | | 6 |
| SB-10-5 | | 1115 | | | X | X | | | | | X | | | | X | X | | 18 | Hold | 6 |
| SB-10-10 | | 1120 | | | X | / | | | | | X | | | | X | X | | 19 | | 6 |
| SB-10-15 | | 1125 | | | X | / | | | | | X | | | | X | X | | 20 | Hold | 6 |
| SB-7-2.5 | | 1230 | | | X | / | | | | | X | | | | X | X | | 21 | | 6 |
| SB-7-5 | | 1240 | | | X | X | | | | | X | | | | X | X | | 22 | Hold | 6 |
| SB-7-10 | | 1245 | | | X | X | | | | | X | | | | X | X | | 23 | | 6 |
| SB-7-15 | | 1250 | | | X | X | | | | | X | | | | X | X | | 24 | Hold | 6 |
| SB-8-2.5 | | 1325 | | | X | / | | | | | X | | | | X | X | | 25 | | 6 |
| SB-8-5 | | 1330 | | | X | / | | | | | X | | | | X | X | | 26 | Hold | 6 |
| SB-8-10 | | 1340 | | | X | X | | | | | X | | | | X | X | | 27 | | 6 |
| SB-8-15 | | 1345 | | | X | / | | | | | X | | | | X | X | | 28 | Hold | 6 |
| | | | | | X | X | | | | | X | | | | X | X | | | | 6 |
| | 2/28/22 | | Soil | VOA's n sleeve | X | X | | | | | X | | | | X | X | | | | 6 |

Relinquished by: (signature) Date / Time 2/28/22 1352
Received by: (signature) Date / Time 2-28-22 1352
Relinquished by: (signature) Date / Time 2-28-22 16:40
Received by: (signature) Date / Time 2/28/22 16:40
Relinquished by: (signature) Date / Time
Received by: (signature) Date / Time

Total # of containers
Chain of Custody seals Y/N/[✓ NA]
Seals intact? Y/N/[✓ NA]
Received good condition/cold 1.1°C
**Turn around time:** 48hr

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

Rev. 02 Date 07/19
Receiving Form 001

# SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T220536

Client Name: Equipose Corp. Project: 1628 E. 81st Street, Los Angeles

Delivered by: ☐ Client ☒ SunStar Courier ☐ GLS ☐ FedEx ☐ UPS

If Courier, Received by: Travis Date/Time Courier Received: 2/28/22 13:52

Lab Received by: Jennifer Date/Time Lab Received: 2/28/22 16:40

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due: 8/24/22

| | | | | | |
|---|---|---|---|---|---|
| Temperature: | Cooler #1 | 1.0 | °C +/- the CF (+0.1 °C) = | 1.1 | °C corrected temperature |
| Temperature: | Cooler #2 | | °C +/- the CF (+0.1 °C) = | | °C corrected temperature |
| Temperature: | Cooler #3 | | °C +/- the CF (+0.1 °C) = | | °C corrected temperature |

**Temperature criteria = ≤ 6°C (no frozen containers)** Within criteria? ☒**Yes** ☐**No** ☐**N/A**

**If NO:**

Samples received on ice? ☐Yes ☐**No → Complete Non-Conformance Sheet**

If on ice, samples received same day collected? ☐Yes → Acceptable ☐**No → Complete Non-Conformance Sheet**

| | | | |
|---|---|---|---|
| Custody seals intact on cooler/sample | ☐Yes | ☐No* | ☒N/A |
| Sample containers intact | ☒Yes | ☐No* | |
| Sample labels match Chain of Custody IDs | ☒Yes | ☐No* | |
| Total number of containers received match COC | ☒Yes | ☐No* | |
| Proper containers received for analyses requested on COC | ☒Yes | ☐No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☒Yes | ☐No* | ☐N/A |
| Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times | ☒ **Yes** | ☐**No*** | |

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: JB 2/28/22

**Comments:**

Page 1 of 1

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

## WORK ORDER

## T220536

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

**Report To:**

Equipoise Corporation
Valery Naskrent
1311 Calle Batido, Suite 260
San Clemente, CA 92673

| | | | |
|---|---|---|---|
| Date Due: | 03/02/22 17:00 (1 day TAT) | | |
| Received By: | Jennifer Berger | Date Received: | 02/28/22 16:40 |
| Logged In By: | Jennifer Berger | Date Logged In: | 02/28/22 15:56 |

| | | | |
|---|---|---|---|
| Samples Received at: | **1.1°C** | | |
| Custody Seals | No | Received On Ice | Yes |
| Containers Intact | Yes | | |
| COC/Labels Agree | Yes | | |
| Preservation Confirme | Yes | | |

| **Analysis** | **Due** | **TAT** | **Expires** | **Comments** |
|---|---|---|---|---|
| **T220536-01 SB-2-2.5 [Soil] Sampled 02/28/22 07:10 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 07:10 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 07:10 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 07:10 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-02 SB-2-5 [Soil] Sampled 02/28/22 07:15 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-03 SB-2-10 [Soil] Sampled 02/28/22 07:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 07:30 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 07:30 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 07:30 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-04 SB-2-15 [Soil] Sampled 02/28/22 07:35 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |

**SunStar Laboratories, Inc.**
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

## WORK ORDER

## T220536

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220536-05 SB-1-2.5 [Soil] Sampled 02/28/22 08:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 08:15 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 08:15 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 08:15 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-06 SB-1-5 [Soil] Sampled 02/28/22 08:20 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-07 SB-1-10 [Soil] Sampled 02/28/22 08:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 08:30 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 08:30 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 08:30 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-08 SB-1-15 [Soil] Sampled 02/28/22 08:40 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-09 SB-4-2.5 [Soil] Sampled 02/28/22 09:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 09:00 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 09:00 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 09:00 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-10 SB-4-5 [Soil] Sampled 02/28/22 09:15 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-11 SB-4-10 [Soil] Sampled 02/28/22 09:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 09:25 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 09:25 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 09:25 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |

**WORK ORDER**

**T220536**

|  |  |  |  |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220536-12 SB-4-15 [Soil] Sampled 02/28/22 09:45 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-13 SB-9-2.5 [Soil] Sampled 02/28/22 10:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 10:15 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 10:15 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 10:15 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-14 SB-9-5 [Soil] Sampled 02/28/22 10:20 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-15 SB-9-10 [Soil] Sampled 02/28/22 10:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 10:30 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 10:30 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 10:30 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-16 SB-9-15 [Soil] Sampled 02/28/22 10:35 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-17 SB-10-2.5 [Soil] Sampled 02/28/22 10:55 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 10:55 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 10:55 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 10:55 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-18 SB-10-5 [Soil] Sampled 02/28/22 11:15 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |

## WORK ORDER

## T220536

**Client:** **Equipoise Corporation**
**Project Manager:** **Joann Marroquin**
**Project:** **1628 E. 81st Street, Los Angeles**
**Project Number:** **[none]**

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220536-19 SB-10-10 [Soil] Sampled 02/28/22 11:20 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 11:20 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 11:20 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 11:20 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-20 SB-10-15 [Soil] Sampled 02/28/22 11:25 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-21 SB-7-2.5 [Soil] Sampled 02/28/22 12:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 12:30 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 12:30 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 12:30 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-22 SB-7-5 [Soil] Sampled 02/28/22 12:40 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-23 SB-7-10 [Soil] Sampled 02/28/22 12:45 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 12:45 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 12:45 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 12:45 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-24 SB-7-15 [Soil] Sampled 02/28/22 12:50 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-25 SB-8-2.5 [Soil] Sampled 02/28/22 13:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 13:25 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 13:25 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 13:25 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |

## WORK ORDER

## T220536

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220536-26 SB-8-5 [Soil] Sampled 02/28/22 13:30 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220536-27 SB-8-10 [Soil] Sampled 02/28/22 13:40 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/02/22 15:00 | 1 | 08/27/22 13:40 | |
| 8015 CC (D/MO) | 03/02/22 15:00 | 1 | 03/14/22 13:40 | |
| 8015 m 5035-GRO | 03/02/22 15:00 | 1 | 03/14/22 13:40 | |
| 8260 5035 | 03/02/22 15:00 | 1 | 03/14/22 23:59 | +OXY |
| **T220536-28 SB-8-15 [Soil] Sampled 02/28/22 13:45 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |

**Analysis groups included in this work order**

*6010 Title 22*

| | |
|---|---|
| subgroup 6010B T22 | 7470/71 Hg |

Reviewed By

Date

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

04 March 2022

Valery Naskrent
Equipoise Corporation
1311 Calle Batido, Suite 260
San Clemente, CA 92673

RE: 1628 E. 81st Street, Los Angeles

Enclosed are the results of analyses for samples received by the laboratory on 03/01/22 11:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Joann Marroquin

Joann Marroquin
Director of Operations

|  |  |  |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| SB-6-2.5 | T220539-01 | Soil | 02/28/22 14:25 | 03/01/22 11:55 |
| SB-6-5 | T220539-02 | Soil | 02/28/22 14:30 | 03/01/22 11:55 |
| SB-6-10 | T220539-03 | Soil | 02/28/22 14:45 | 03/01/22 11:55 |
| SB-5-2.5 | T220539-05 | Soil | 02/28/22 15:15 | 03/01/22 11:55 |
| SB-5-10 | T220539-07 | Soil | 02/28/22 15:30 | 03/01/22 11:55 |
| SB-3-2.5 | T220539-09 | Soil | 02/28/22 16:15 | 03/01/22 11:55 |
| SB-3-10 | T220539-11 | Soil | 02/28/22 16:30 | 03/01/22 11:55 |

Joann Marroquin

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## DETECTIONS SUMMARY

**Sample ID:** SB-6-2.5 **Laboratory ID:** T220539-01

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **63** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **8.0** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **9.5** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **45** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **1300** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **11** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **21** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **48** | 1.0 | mg/kg | EPA 6010b | |
| Benzene | **5.2** | 2.5 | ug/kg | EPA 8260B/5035 | |
| Acetone | **30** | 2.5 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-6-10 **Laboratory ID:** T220539-03

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **92** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **11** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **8.4** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **13** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **8.3** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **30** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **40** | 1.0 | mg/kg | EPA 6010b | |
| Acetone | **6.2** | 2.2 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-5-2.5 **Laboratory ID:** T220539-05

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **74** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.0** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **6.8** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **9.4** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **6.4** | 2.0 | mg/kg | EPA 6010b | |

Joann Marroquin

**Sample ID:** SB-5-2.5 **Laboratory ID:** T220539-05

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Vanadium | **26** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **34** | 1.0 | mg/kg | EPA 6010b | |
| Benzene | **2.3** | 2.1 | ug/kg | EPA 8260B/5035 | |
| Acetone | **14** | 2.1 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-5-10 **Laboratory ID:** T220539-07

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| C13-C28 (DRO) | **15** | 10 | mg/kg | EPA 8015B | D-06 |
| Barium | **110** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **12** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **8.3** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **14** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **8.6** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **32** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **41** | 1.0 | mg/kg | EPA 6010b | |
| Acetone | **9.3** | 2.5 | ug/kg | EPA 8260B/5035 | |

**Sample ID:** SB-3-2.5 **Laboratory ID:** T220539-09

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **48** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **6.2** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **5.3** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **4.8** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **4.1** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **21** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **25** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB-3-10 **Laboratory ID:** T220539-11

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **83** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **10** | 2.0 | mg/kg | EPA 6010b | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

**Sample ID:** SB-3-10 **Laboratory ID:** T220539-11

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Cobalt | **7.7** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **9.5** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **6.9** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **28** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **38** | 1.0 | mg/kg | EPA 6010b | |
| Acetone | **3.3** | 2.2 | ug/kg | EPA 8260B/5035 | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-6-2.5

### T220539-01 (Soil)

### SunStar Laboratories, Inc.

**Purgeable Petroleum Hydrocarbons by EPA 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C6-C12 (GRO) | ND | 220 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *81.5 %* | *65-135* | | " | " | " | " | |

**Extractable Petroleum Hydrocarbons by 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030148 | 03/01/22 | 03/02/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *97.9 %* | *65-135* | | " | " | " | " | |

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2030150 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | 03/02/22 | " | |
| Arsenic | ND | 5.0 | " | " | " | " | 03/02/22 | " | |
| **Barium** | **63** | 1.0 | " | " | " | " | 03/02/22 | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Chromium** | **8.0** | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Cobalt** | **9.5** | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Copper** | **45** | 1.0 | " | " | " | " | 03/02/22 | " | |
| **Lead** | **1300** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | 03/02/22 | " | |
| **Nickel** | **11** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **21** | 5.0 | " | " | " | " | 03/02/22 | " | |
| **Zinc** | **48** | 1.0 | " | " | " | " | " | " | |

|  |  |  |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-6-2.5

### T220539-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** |  |  |  |  |  |  |  |  |  |
| **Cold Vapor Extraction EPA 7470/7471** |  |  |  |  |  |  |  |  |  |
| Mercury | ND | 0.10 | mg/kg | 1 | 2022826 | 02/28/22 | 03/02/22 | EPA 7471A Soil |  |
| **Volatile Organic Compounds by EPA Method 8260B** |  |  |  |  |  |  |  |  |  |
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 |  |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " |  |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " |  |
| Bromoform | ND | 2.5 | " | " | " | " | " | " |  |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " |  |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " |  |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " |  |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " |  |
| Chloroform | ND | 2.5 | " | " | " | " | " | " |  |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " |  |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " |  |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " |  |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " |  |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " |  |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " |  |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " |  |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " |  |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " |  |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " |  |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " |  |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

|  |  |  |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-6-2.5

### T220539-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 |  |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " |  |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " |  |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " |  |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " |  |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " |  |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " |  |
| Methylene chloride | ND | 10 | " | " | " | " | " | " |  |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " |  |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| Styrene | ND | 2.5 | " | " | " | " | " | " |  |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " |  |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " |  |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " |  |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " |  |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " |  |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " |  |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " |  |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " |  |
| **Benzene** | **5.2** | 2.5 | " | " | " | " | " | " |  |
| Toluene | ND | 2.5 | " | " | " | " | " | " |  |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " |  |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " |  |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " |  |

| | | | |
|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/04/22 13:45 |

## SB-6-2.5

### T220539-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| **Acetone** | **30** | 2.5 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *98.4 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *113 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *111 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-6-10

### T220539-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

### SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** | | | | | | | | | |
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *83.3 %* | *65-135* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015B** | | | | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030148 | 03/01/22 | 03/02/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | D-06 |
| *Surrogate: p-Terphenyl* | | *93.0 %* | *65-135* | | " | " | " | " | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030150 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **92** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **11** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **8.4** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **13** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **8.3** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **30** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **40** | 1.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-6-10

### T220539-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2022826 | 02/28/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 2.2 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.2 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.2 | " | " | " | " | " | " | |
| Bromoform | ND | 2.2 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.2 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.2 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Chloroform | ND | 2.2 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.2 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.2 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.2 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 4.5 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.2 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-6-10

### T220539-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.2 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.2 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.2 | " | " | " | " | " | " | |
| Methylene chloride | ND | 8.9 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.2 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Styrene | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.2 | " | " | " | " | " | " | |
| Benzene | ND | 2.2 | " | " | " | " | " | " | |
| Toluene | ND | 2.2 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 4.5 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.2 | " | " | " | " | " | " | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-6-10

### T220539-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 8.9 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 22 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 8.9 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 8.9 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 8.9 | " | " | " | " | " | " | |
| **Acetone** | **6.2** | 2.2 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 4.5 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 4.5 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.2 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *93.5 %* | *76.1-127* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *111 %* | *85.9-114* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *110 %* | *77.8-142* | | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-5-2.5

### T220539-05 (Soil)

**SunStar Laboratories, Inc.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** | | | | | | | | | |
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *81.5 %* | *65-135* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015B** | | | | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030148 | 03/01/22 | 03/02/22 | EPA 8015B | |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *97.0 %* | *65-135* | | " | " | " | " | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030150 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **74** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **9.0** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **6.8** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **9.4** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **6.4** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **26** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **34** | 1.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-5-2.5

### T220539-05 (Soil)

**SunStar Laboratories, Inc.**

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2022826 | 02/28/22 | 03/02/22 | EPA 7471A Soil |  |

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene | ND | 2.1 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 |  |
| Bromochloromethane | ND | 2.1 | " | " | " | " | " | " |  |
| Bromodichloromethane | ND | 2.1 | " | " | " | " | " | " |  |
| Bromoform | ND | 2.1 | " | " | " | " | " | " |  |
| Bromomethane | ND | 2.1 | " | " | " | " | " | " |  |
| n-Butylbenzene | ND | 2.1 | " | " | " | " | " | " |  |
| sec-Butylbenzene | ND | 2.1 | " | " | " | " | " | " |  |
| tert-Butylbenzene | ND | 2.1 | " | " | " | " | " | " |  |
| Carbon tetrachloride | ND | 2.1 | " | " | " | " | " | " |  |
| Chlorobenzene | ND | 2.1 | " | " | " | " | " | " |  |
| Chloroethane | ND | 2.1 | " | " | " | " | " | " |  |
| Chloroform | ND | 2.1 | " | " | " | " | " | " |  |
| Chloromethane | ND | 2.1 | " | " | " | " | " | " |  |
| 2-Chlorotoluene | ND | 2.1 | " | " | " | " | " | " |  |
| 4-Chlorotoluene | ND | 2.1 | " | " | " | " | " | " |  |
| Dibromochloromethane | ND | 2.1 | " | " | " | " | " | " |  |
| 1,2-Dibromo-3-chloropropane | ND | 4.3 | " | " | " | " | " | " |  |
| 1,2-Dibromoethane (EDB) | ND | 2.1 | " | " | " | " | " | " |  |
| Dibromomethane | ND | 2.1 | " | " | " | " | " | " |  |
| 1,2-Dichlorobenzene | ND | 2.1 | " | " | " | " | " | " |  |
| 1,3-Dichlorobenzene | ND | 2.1 | " | " | " | " | " | " |  |
| 1,4-Dichlorobenzene | ND | 2.1 | " | " | " | " | " | " |  |
| Dichlorodifluoromethane | ND | 2.1 | " | " | " | " | " | " |  |
| 1,1-Dichloroethane | ND | 2.1 | " | " | " | " | " | " |  |
| 1,2-Dichloroethane | ND | 2.1 | " | " | " | " | " | " |  |
| 1,1-Dichloroethene | ND | 2.1 | " | " | " | " | " | " |  |
| cis-1,2-Dichloroethene | ND | 2.1 | " | " | " | " | " | " |  |
| trans-1,2-Dichloroethene | ND | 2.1 | " | " | " | " | " | " |  |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-5-2.5

### T220539-05 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.1 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.1 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.1 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.1 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.1 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.1 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.1 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.1 | " | " | " | " | " | " | |
| Methylene chloride | ND | 8.5 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.1 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| Styrene | ND | 2.1 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.1 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.1 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.1 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.1 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.1 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.1 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.1 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.1 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.1 | " | " | " | " | " | " | |
| **Benzene** | **2.3** | 2.1 | " | " | " | " | " | " | |
| Toluene | ND | 2.1 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.1 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 4.3 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.1 | " | " | " | " | " | " | |

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|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/04/22 13:45 |

## SB-5-2.5

### T220539-05 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 8.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 21 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 8.5 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 8.5 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 8.5 | " | " | " | " | " | " | |
| **Acetone** | **14** | 2.1 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 4.3 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 4.3 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.1 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *98.0 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *114 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *109 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-5-10

### T220539-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

**SunStar Laboratories, Inc.**

**Purgeable Petroleum Hydrocarbons by EPA 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C6-C12 (GRO) | ND | 190 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *73.5 %* | *65-135* | | *"* | *"* | *"* | *"* | |

**Extractable Petroleum Hydrocarbons by 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030148 | 03/01/22 | 03/02/22 | EPA 8015B | D-06 |
| **C13-C28 (DRO)** | **15** | 10 | " | " | " | " | " | " | D-06 |
| *Surrogate: p-Terphenyl* | | *94.9 %* | *65-135* | | *"* | *"* | *"* | *"* | |

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2030150 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **110** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | 03/02/22 | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/02/22 | " | |
| **Chromium** | **12** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **8.3** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **14** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **8.6** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **32** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **41** | 1.0 | " | " | " | " | " | " | |

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-5-10

### T220539-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2022826 | 02/28/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromoform | ND | 2.5 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Chloroform | ND | 2.5 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |

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|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/04/22 13:45 |

## SB-5-10

### T220539-07 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " | |
| Methylene chloride | ND | 10 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Styrene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " | |
| Benzene | ND | 2.5 | " | " | " | " | " | " | |
| Toluene | ND | 2.5 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-5-10

### T220539-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 |  |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " |  |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " |  |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " |  |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " |  |
| **Acetone** | **9.3** | 2.5 | " | " | " | " | " | " |  |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " |  |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " |  |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " |  |
| *Surrogate: Toluene-d8* |  | *99.5 %* | *76.1-127* |  | " | " | " | " |  |
| *Surrogate: 4-Bromofluorobenzene* |  | *113 %* | *85.9-114* |  | " | " | " | " |  |
| *Surrogate: Dibromofluoromethane* |  | *111 %* | *77.8-142* |  | " | " | " | " |  |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-3-2.5

### T220539-09 (Soil)

### SunStar Laboratories, Inc.

**Purgeable Petroleum Hydrocarbons by EPA 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C6-C12 (GRO) | ND | 250 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 |  |
| *Surrogate: a,a,a-Trifluorotoluene* |  | *84.0 %* | *65-135* |  | " | " | " | " |  |

**Extractable Petroleum Hydrocarbons by 8015B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030148 | 03/01/22 | 03/02/22 | EPA 8015B |  |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " |  |
| *Surrogate: p-Terphenyl* |  | *94.6 %* | *65-135* |  | " | " | " | " |  |

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2030150 | 03/01/22 | 03/02/22 | EPA 6010b |  |
| Silver | ND | 2.0 | " | " | " | " | " | " |  |
| Arsenic | ND | 5.0 | " | " | " | " | " | " |  |
| **Barium** | **48** | 1.0 | " | " | " | " | " | " |  |
| Beryllium | ND | 1.0 | " | " | " | " | 03/02/22 | " |  |
| Cadmium | ND | 2.0 | " | " | " | " | 03/02/22 | " |  |
| **Chromium** | **6.2** | 2.0 | " | " | " | " | " | " |  |
| **Cobalt** | **5.3** | 2.0 | " | " | " | " | " | " |  |
| **Copper** | **4.8** | 1.0 | " | " | " | " | " | " |  |
| Lead | ND | 3.0 | " | " | " | " | " | " |  |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " |  |
| **Nickel** | **4.1** | 2.0 | " | " | " | " | " | " |  |
| Selenium | ND | 5.0 | " | " | " | " | " | " |  |
| Thallium | ND | 5.0 | " | " | " | " | " | " |  |
| **Vanadium** | **21** | 5.0 | " | " | " | " | " | " |  |
| **Zinc** | **25** | 1.0 | " | " | " | " | " | " |  |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-3-2.5

### T220539-09 (Soil)

### SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2022826 | 02/28/22 | 03/02/22 | EPA 7471A Soil | |

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/03/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.5 | " | " | " | " | " | " | |
| Bromoform | ND | 2.5 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.5 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.5 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Chloroform | ND | 2.5 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.5 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | " | " | " | " | " | |

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| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/04/22 13:45 |

## SB-3-2.5

## T220539-09 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.5 | ug/kg | 1 | 2030147 | 03/01/22 | 03/03/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.5 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.5 | " | " | " | " | " | " | |
| Methylene chloride | ND | 10 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.5 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Styrene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.5 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.5 | " | " | " | " | " | " | |
| Benzene | ND | 2.5 | " | " | " | " | " | " | |
| Toluene | ND | 2.5 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.5 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.5 | " | " | " | " | " | " | |

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|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/04/22 13:45 |

## SB-3-2.5

## T220539-09 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Tert-amyl methyl ether | ND | 10 | ug/kg | 1 | 2030147 | 03/01/22 | 03/03/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 25 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 10 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 10 | " | " | " | " | " | " | |
| Acetone | ND | 2.5 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 5.0 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.5 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *89.7 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *102 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *94.8 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-3-10

### T220539-11 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015B** | | | | | | | | | |
| C6-C12 (GRO) | ND | 220 | ug/kg | 1 | 2030146 | 03/01/22 | 03/01/22 | EPA 8015B/5035 | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *68.9 %* | *65-135* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015B** | | | | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | 1 | 2030148 | 03/01/22 | 03/02/22 | EPA 8015B | D-06 |
| C13-C28 (DRO) | ND | 10 | " | " | " | " | " | " | D-06 |
| *Surrogate: p-Terphenyl* | | *94.7 %* | *65-135* | | " | " | " | " | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030150 | 03/01/22 | 03/02/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **83** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **10** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **7.7** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **9.5** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **6.9** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **28** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **38** | 1.0 | " | " | " | " | " | " | |

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-3-10

### T220539-11 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2022826 | 03/01/22 | 03/02/22 | EPA 7471A Soil | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 2.2 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Bromochloromethane | ND | 2.2 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 2.2 | " | " | " | " | " | " | |
| Bromoform | ND | 2.2 | " | " | " | " | " | " | |
| Bromomethane | ND | 2.2 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 2.2 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| Chloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Chloroform | ND | 2.2 | " | " | " | " | " | " | |
| Chloromethane | ND | 2.2 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 2.2 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 2.2 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 4.4 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 2.2 | " | " | " | " | " | " | |
| Dibromomethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 2.2 | " | " | " | " | " | " | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## SB-3-10

### T220539-11 (Soil)

**SunStar Laboratories, Inc.**

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | 2.2 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| 1,3-Dichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 2.2 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 2.2 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 2.2 | " | " | " | " | " | " | |
| Methylene chloride | ND | 8.7 | " | " | " | " | " | " | |
| Naphthalene | ND | 2.2 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Styrene | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 2.2 | " | " | " | " | " | " | |
| Trichloroethene | ND | 2.2 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 2.2 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 2.2 | " | " | " | " | " | " | |
| Benzene | ND | 2.2 | " | " | " | " | " | " | |
| Toluene | ND | 2.2 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 2.2 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 4.4 | " | " | " | " | " | " | |
| o-Xylene | ND | 2.2 | " | " | " | " | " | " | |

## SB-3-10

### T220539-11 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 8.7 | ug/kg | 1 | 2030147 | 03/01/22 | 03/01/22 | EPA 8260B/5035 | |
| Tert-butyl alcohol | ND | 22 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 8.7 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 8.7 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 8.7 | " | " | " | " | " | " | |
| **Acetone** | **3.3** | 2.2 | " | " | " | " | " | " | |
| Methyl ethyl ketone | ND | 4.4 | " | " | " | " | " | " | |
| Methyl isobutyl ketone | ND | 4.4 | " | " | " | " | " | " | |
| 2-Hexanone (MBK) | ND | 2.2 | " | " | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *98.0 %* | *76.1-127* | | *"* | *"* | *"* | *"* | |
| *Surrogate: 4-Bromofluorobenzene* | | *114 %* | *85.9-114* | | *"* | *"* | *"* | *"* | |
| *Surrogate: Dibromofluoromethane* | | *110 %* | *77.8-142* | | *"* | *"* | *"* | *"* | |

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## Purgeable Petroleum Hydrocarbons by EPA 8015B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030146 - EPA 5035 GC** | | | | | | | | | | |
| **Blank (2030146-BLK1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| C6-C12 (GRO) | ND | 250 | ug/kg | | | | | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *168* | | " | *200* | | *83.9* | *65-135* | | | |
| **LCS (2030146-BS1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| C6-C12 (GRO) | 10000 | 250 | ug/kg | 11000 | | 91.4 | 75-125 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *191* | | " | *200* | | *95.7* | *65-135* | | | |
| **LCS Dup (2030146-BSD1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| C6-C12 (GRO) | 10500 | 250 | ug/kg | 11000 | | 95.1 | 75-125 | 3.99 | 20 | |
| *Surrogate: a,a,a-Trifluorotoluene* | *200* | | " | *200* | | *100* | *65-135* | | | |

Joann Marroquin

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## Extractable Petroleum Hydrocarbons by 8015B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030148 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (2030148-BLK1)** | | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| C29-C44 (MRO) | ND | 10 | mg/kg | | | | | | | |
| C13-C28 (DRO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *93.3* | | *"* | *100* | | *93.3* | *65-135* | | | |
| **LCS (2030148-BS1)** | | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| C13-C28 (DRO) | 530 | 10 | mg/kg | 500 | | 106 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *95.5* | | *"* | *100* | | *95.5* | *65-135* | | | |
| **LCS Dup (2030148-BSD1)** | | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| C13-C28 (DRO) | 550 | 10 | mg/kg | 500 | | 110 | 75-125 | 4.11 | 20 | |
| *Surrogate: p-Terphenyl* | *95.2* | | *"* | *100* | | *95.2* | *65-135* | | | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## Metals by EPA 6010B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030150 - EPA 3050B** | | | | | | | | | | |
| **Blank (2030150-BLK1)** | | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| Antimony | ND | 3.0 | mg/kg | | | | | | | |
| Silver | ND | 2.0 | " | | | | | | | |
| Arsenic | ND | 5.0 | " | | | | | | | |
| Barium | ND | 1.0 | " | | | | | | | |
| Beryllium | ND | 1.0 | " | | | | | | | |
| Cadmium | ND | 2.0 | " | | | | | | | |
| Chromium | ND | 2.0 | " | | | | | | | |
| Cobalt | ND | 2.0 | " | | | | | | | |
| Copper | ND | 1.0 | " | | | | | | | |
| Lead | ND | 3.0 | " | | | | | | | |
| Molybdenum | ND | 5.0 | " | | | | | | | |
| Nickel | ND | 2.0 | " | | | | | | | |
| Selenium | ND | 5.0 | " | | | | | | | |
| Thallium | ND | 5.0 | " | | | | | | | |
| Vanadium | ND | 5.0 | " | | | | | | | |
| Zinc | ND | 1.0 | " | | | | | | | |
| **LCS (2030150-BS1)** | | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| Arsenic | 95.0 | 5.0 | mg/kg | 100 | | 95.0 | 75-125 | | | |
| Barium | 95.8 | 1.0 | " | 100 | | 95.8 | 75-125 | | | |
| Cadmium | 95.8 | 2.0 | " | 100 | | 95.8 | 75-125 | | | |
| Chromium | 95.5 | 2.0 | " | 100 | | 95.5 | 75-125 | | | |
| Lead | 96.0 | 3.0 | " | 100 | | 96.0 | 75-125 | | | |
| **Matrix Spike (2030150-MS1)** | **Source: T220539-01** | | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | |
| Arsenic | 73.0 | 5.0 | mg/kg | 100 | ND | 73.0 | 75-125 | | | QM-05 |
| Barium | 139 | 1.0 | " | 100 | 63.2 | 75.5 | 75-125 | | | |
| Cadmium | 73.9 | 2.0 | " | 100 | 0.944 | 72.9 | 75-125 | | | QM-05 |
| Chromium | 80.2 | 2.0 | " | 100 | 8.00 | 72.2 | 75-125 | | | QM-05 |
| Lead | 598 | 3.0 | " | 100 | 1300 | NR | 75-125 | | | QM-05 |

## Metals by EPA 6010B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030150 - EPA 3050B** | | | | | | | | | | |
| **Matrix Spike Dup (2030150-MSD1)** | **Source: T220539-01** | | Prepared: 03/01/22 Analyzed: 03/02/22 | | | | | | | |
| Arsenic | 69.3 | 5.0 | mg/kg | 100 | ND | 69.3 | 75-125 | 5.24 | 20 | QM-05 |
| Barium | 139 | 1.0 | " | 100 | 63.2 | 75.5 | 75-125 | 0.00554 | 20 | |
| Cadmium | 73.0 | 2.0 | " | 100 | 0.944 | 72.0 | 75-125 | 1.18 | 20 | QM-05 |
| Chromium | 79.4 | 2.0 | " | 100 | 8.00 | 71.4 | 75-125 | 1.06 | 20 | QM-05 |
| Lead | 812 | 3.0 | " | 100 | 1300 | NR | 75-125 | 30.3 | 20 | QM-05 |

## Cold Vapor Extraction EPA 7470/7471 - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2022826 - EPA 7471A Soil** | | | | | | | | | | |
| **Blank (2022826-BLK1)** | | | | Prepared: 02/28/22 Analyzed: 03/02/22 | | | | | | |
| Mercury | ND | 0.10 | mg/kg | | | | | | | |
| **LCS (2022826-BS1)** | | | | Prepared: 02/28/22 Analyzed: 03/02/22 | | | | | | |
| Mercury | 0.370 | 0.10 | mg/kg | 0.385 | | 96.3 | 80-120 | | | |
| **Matrix Spike (2022826-MS1)** | **Source: T220534-08** | | | Prepared: 02/28/22 Analyzed: 03/02/22 | | | | | | |
| Mercury | 0.380 | 0.10 | mg/kg | 0.385 | ND | 98.9 | 75-125 | | | |
| **Matrix Spike Dup (2022826-MSD1)** | **Source: T220534-08** | | | Prepared: 02/28/22 Analyzed: 03/02/22 | | | | | | |
| Mercury | 0.420 | 0.10 | mg/kg | 0.417 | ND | 101 | 75-125 | 9.92 | 20 | |

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| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

**Batch 2030147 - EPA 5035 GCMS**

**Blank (2030147-BLK1)** Prepared & Analyzed: 03/01/22

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene | ND | 2.5 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 2.5 | " | | | | | | | |
| Bromodichloromethane | ND | 2.5 | " | | | | | | | |
| Bromoform | ND | 2.5 | " | | | | | | | |
| Bromomethane | ND | 2.5 | " | | | | | | | |
| n-Butylbenzene | ND | 2.5 | " | | | | | | | |
| sec-Butylbenzene | ND | 2.5 | " | | | | | | | |
| tert-Butylbenzene | ND | 2.5 | " | | | | | | | |
| Carbon tetrachloride | ND | 2.5 | " | | | | | | | |
| Chlorobenzene | ND | 2.5 | " | | | | | | | |
| Chloroethane | ND | 2.5 | " | | | | | | | |
| Chloroform | ND | 2.5 | " | | | | | | | |
| Chloromethane | ND | 2.5 | " | | | | | | | |
| 2-Chlorotoluene | ND | 2.5 | " | | | | | | | |
| 4-Chlorotoluene | ND | 2.5 | " | | | | | | | |
| Dibromochloromethane | ND | 2.5 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 2.5 | " | | | | | | | |
| Dibromomethane | ND | 2.5 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 2.5 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 2.5 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 2.5 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 2.5 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 2.5 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 2.5 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 2.5 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 2.5 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 2.5 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 2.5 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 2.5 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 2.5 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 2.5 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 2.5 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 2.5 | " | | | | | | | |
| Hexachlorobutadiene | ND | 2.5 | " | | | | | | | |
| Isopropylbenzene | ND | 2.5 | " | | | | | | | |

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030147 - EPA 5035 GCMS** | | | | | | | | | | |
| **Blank (2030147-BLK1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| p-Isopropyltoluene | ND | 2.5 | ug/kg | | | | | | | |
| Methylene chloride | ND | 10 | " | | | | | | | |
| Naphthalene | ND | 2.5 | " | | | | | | | |
| n-Propylbenzene | ND | 2.5 | " | | | | | | | |
| Styrene | ND | 2.5 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 2.5 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 2.5 | " | | | | | | | |
| Tetrachloroethene | ND | 2.5 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 2.5 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 2.5 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 2.5 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 2.5 | " | | | | | | | |
| Trichloroethene | ND | 2.5 | " | | | | | | | |
| Trichlorofluoromethane | ND | 2.5 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 2.5 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 2.5 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 2.5 | " | | | | | | | |
| Vinyl chloride | ND | 2.5 | " | | | | | | | |
| Benzene | ND | 2.5 | " | | | | | | | |
| Toluene | ND | 2.5 | " | | | | | | | |
| Ethylbenzene | ND | 2.5 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 2.5 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 10 | " | | | | | | | |
| Tert-butyl alcohol | ND | 25 | " | | | | | | | |
| Di-isopropyl ether | ND | 10 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 10 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 10 | " | | | | | | | |
| Acetone | ND | 2.5 | " | | | | | | | |
| Methyl ethyl ketone | ND | 5.0 | " | | | | | | | |
| Methyl isobutyl ketone | ND | 5.0 | " | | | | | | | |
| 2-Hexanone (MBK) | ND | 2.5 | " | | | | | | | |
| *Surrogate: Toluene-d8* | *47.2* | | *"* | *50.0* | | *94.5* | *76.1-127* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *56.2* | | *"* | *50.0* | | *112* | *85.9-114* | | | |
| *Surrogate: Dibromofluoromethane* | *49.8* | | *"* | *50.0* | | *99.6* | *77.8-142* | | | |

Joann Marroquin

Joann Marroquin, Director of Operations

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|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/04/22 13:45 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030147 - EPA 5035 GCMS** | | | | | | | | | | |
| **LCS (2030147-BS1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| Chlorobenzene | 46.4 | 2.5 | ug/kg | 50.0 | | 92.8 | 79.1-117 | | | |
| 1,1-Dichloroethene | 47.9 | 2.5 | " | 50.0 | | 95.8 | 68-126 | | | |
| Trichloroethene | 54.5 | 2.5 | " | 50.0 | | 109 | 80.6-119 | | | |
| Benzene | 50.2 | 2.5 | " | 50.0 | | 100 | 79.1-117 | | | |
| Toluene | 49.3 | 2.5 | " | 50.0 | | 98.5 | 79.5-118 | | | |
| *Surrogate: Toluene-d8* | *47.5* | | *"* | *50.0* | | *94.9* | *76.1-127* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *56.1* | | *"* | *50.0* | | *112* | *85.9-114* | | | |
| *Surrogate: Dibromofluoromethane* | *46.1* | | *"* | *50.0* | | *92.2* | *77.8-142* | | | |
| **LCS Dup (2030147-BSD1)** | | | | Prepared & Analyzed: 03/01/22 | | | | | | |
| Chlorobenzene | 47.4 | 2.5 | ug/kg | 50.0 | | 94.8 | 79.1-117 | 2.13 | 20 | |
| 1,1-Dichloroethene | 50.4 | 2.5 | " | 50.0 | | 101 | 68-126 | 5.03 | 20 | |
| Trichloroethene | 56.6 | 2.5 | " | 50.0 | | 113 | 80.6-119 | 3.84 | 20 | |
| Benzene | 50.8 | 2.5 | " | 50.0 | | 102 | 79.1-117 | 1.11 | 20 | |
| Toluene | 51.0 | 2.5 | " | 50.0 | | 102 | 79.5-118 | 3.39 | 20 | |
| *Surrogate: Toluene-d8* | *47.3* | | *"* | *50.0* | | *94.6* | *76.1-127* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *57.0* | | *"* | *50.0* | | *114* | *85.9-114* | | | |
| *Surrogate: Dibromofluoromethane* | *45.8* | | *"* | *50.0* | | *91.5* | *77.8-142* | | | |

Joann Marroquin

Joann Marroquin, Director of Operations

## Notes and Definitions

| | |
|---|---|
| QM-05 | The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected. |
| D-06 | The sample chromatographic pattern does not resemble the fuel standard used for quantitation. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

# Chain of Custody Record

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Client: Equipoise Corp
Address: San clemente
Phone: Fax:
Project Manager: Valay Nastrent

Date: 2/28/2022 Page: 1 Of 1
Project Name: 81st LA
Collector: Oscar Jcle
Client Project #:
Batch #: T220539
EDF #:

| Sample ID | Date Sampled | Time | Sample Type | Container Type | 8260B/5035 TPH as gas C4-C12 | ~~8260 + OXY~~ 8260B/5035 VOCs + OXYs | 8260 BTEX, OXY only | 8270 | 8021 BTEX | 8015M (gasoline) | 8015~~M~~B (diesel) C13-C22 | 8015M Ext./Carbon Chain | 6010/7000 Title 22 Metals | 6020 ICP-MS Metals | 8015B (motor oil) C23-C44 | 6010B/7471A title 22 + mercury. | | Laboratory ID # | Comments/Preservative | Total # of containers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB-6-2.5 | 2/28/22 | 1425 | soil | voas n sleeve | X | X | | | | | X | | | | X | X | | 01 | | |
| SB-6-5 | | 1430 | | | X | X | | | | | X | | | | X | X | | 02 | Hold | |
| SB-6-10 | | 1445 | | | X | X | | | | | X | | | | X | X | | 03 | | |
| SB-6-15 | | 1450 | | | X | X | | | | | X | | | | X | X | | 04 | Hold | |
| SB-5-2.5 | | 1515 | | | X | X | | | | | X | | | | X | X | | 05 | | |
| SB-5-5 | | 1525 | | | X | X | | | | | X | | | | X | X | | 06 | Hold | |
| SB-5-10 | | 1530 | | | X | X | | | | | X | | | | X | X | | 07 | | |
| SB-5-15 | | 1540 | | | X | X | | | | | X | | | | X | X | | 08 | Hold | |
| SB-3-2.5 | | 1615 | | | X | X | | | | | X | | | | X | X | | 09 | | |
| SB-3-5 | | 1625 | | | X | X | | | | | X | | | | X | X | | 10 | Hold | |
| SB-3-10 | | 1630 | | | X | X | | | | | X | | | | X | X | | 11 | | |
| SB-3-15 | 2/28/22 | 1640 | soil | | X | X | | | | | X | | | | X | X | | 12 | Hold | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | voas n sleeve | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished by: (signature) | Date / Time 3/1/22 1010 | Received by: (signature) | Date / Time 3/1/22 10:10 | Total # of containers | |
| Relinquished by: (signature) | Date / Time 3/1/22 11:55 | Received by: (signature) | Date / Time 3/1/22 11:55 | Chain of Custody seals Y/[✓ N]/NA | N |
| | | | | Seals intact? Y/N/[✓ NA] | NA |
| | | | | Received good condition/cold | 4.3°C |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Date / Time | Turn around time: 48 hrs | |

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

**SunStar Laboratories, Inc.**
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Rev. 02 Date 07/19
Receiving Form 001

# SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T220539

Client Name: Equipoise Project: 81st LA

Delivered by: ☐ Client ☑ SunStar Courier ☐ GLS ☐ FedEx ☐ UPS

If Courier, Received by: Paul Date/Time Courier Received: 3/1/22 10:10

Lab Received by: Jennifer Date/Time Lab Received: 3/1/22 11:55

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due: 8/24/22

Temperature: Cooler #1 4.2 °C +/- the CF (+0.1 °C) = 4.3 °C corrected temperature

Temperature: Cooler #2 °C +/- the CF (+0.1 °C) = °C corrected temperature

Temperature: Cooler #3 °C +/- the CF (+0.1 °C) = °C corrected temperature

**Temperature criteria = ≤ 6°C (no frozen containers)** Within criteria? ☑ **Yes** ☐ **No** ☐ **N/A**

**If NO:**

Samples received on ice? ☐ Yes ☐ **No → Complete Non-Conformance Sheet**

If on ice, samples received same day collected? ☐ Yes → Acceptable ☐ **No → Complete Non-Conformance Sheet**

| | | | |
|---|---|---|---|
| Custody seals intact on cooler/sample | ☐ Yes | ☐ No* | ☑ N/A |
| Sample containers intact | ☑ Yes | ☐ No* | |
| Sample labels match Chain of Custody IDs | ☑ Yes | ☐ No* | |
| Total number of containers received match COC | ☑ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☑ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☑ Yes | ☐ No* | ☐ N/A |
| Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times | ☑ **Yes** | ☐ **No*** | |

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: PB 3/1/22

**Comments:**

Page 1 of 1

**SunStar Laboratories, Inc.**
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**Printed: 3/1/2022 12:07:44PM**

**WORK ORDER**

**T220539**

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

**Report To:**

Equipoise Corporation
Valery Naskrent
1311 Calle Batido, Suite 260
San Clemente, CA 92673

| | | | |
|---|---|---|---|
| Date Due: | 03/03/22 17:00 (2 day TAT) | | |
| Received By: | Jennifer Berger | Date Received: | 03/01/22 11:55 |
| Logged In By: | Jennifer Berger | Date Logged In: | 03/01/22 12:01 |

| | | | |
|---|---|---|---|
| Samples Received at: | **4.3°C** | | |
| Custody Seals | No | Received On Ice | Yes |
| Containers Intact | Yes | | |
| COC/Labels Agree | Yes | | |
| Preservation Confirme | Yes | | |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-01 SB-6-2.5 [Soil] Sampled 02/28/22 14:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 14:25 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 14:25 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 14:25 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-02 SB-6-5 [Soil] Sampled 02/28/22 14:30 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-03 SB-6-10 [Soil] Sampled 02/28/22 14:45 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 14:45 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 14:45 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 14:45 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-04 SB-6-15 [Soil] Sampled 02/28/22 14:50 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |

**WORK ORDER**

**T220539**

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-05 SB-5-2.5 [Soil] Sampled 02/28/22 15:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 15:15 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 15:15 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 15:15 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-06 SB-5-5 [Soil] Sampled 02/28/22 15:25 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-07 SB-5-10 [Soil] Sampled 02/28/22 15:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 15:30 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 15:30 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 15:30 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-08 SB-5-15 [Soil] Sampled 02/28/22 15:40 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-09 SB-3-2.5 [Soil] Sampled 02/28/22 16:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 16:15 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 16:15 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 16:15 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-10 SB-3-5 [Soil] Sampled 02/28/22 16:25 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-11 SB-3-10 [Soil] Sampled 02/28/22 16:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 16:30 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 16:30 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 16:30 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |

**Printed: 3/1/2022 12:07:44PM**

**WORK ORDER**

**T220539**

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-12 SB-3-15 [Soil] Sampled 02/28/22 16:40 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |

**Analysis groups included in this work order**

*6010 Title 22*

subgroup 6010B T22 7470/71 Hg

Reviewed By

Date

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

## WORK ORDER

## T220539

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

**Report To:**

Equipoise Corporation
Valery Naskrent
1311 Calle Batido, Suite 260
San Clemente, CA 92673

| | | | |
|---|---|---|---|
| Date Due: | 03/07/22 17:00 (4 day TAT) | | |
| Received By: | Jennifer Berger | Date Received: | 03/01/22 11:55 |
| Logged In By: | Jennifer Berger | Date Logged In: | 03/01/22 12:01 |

| | | | |
|---|---|---|---|
| Samples Received at: | **4.3°C** | | |
| Custody Seals | No | Received On Ice | Yes |
| Containers Intact | Yes | | |
| COC/Labels Agree | Yes | | |
| Preservation Confirme | Yes | | |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-01 SB-6-2.5 [Soil] Sampled 02/28/22 14:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 14:25 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 14:25 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 14:25 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| STLC Pb | 03/07/22 15:00 | 2 | 08/27/22 14:25 | |
| STLC Leaching Procedure Metals | 03/07/22 15:00 | 2 | 08/27/22 14:25 | |
| **T220539-02 SB-6-5 [Soil] Sampled 02/28/22 14:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 14:30 | |
| **T220539-03 SB-6-10 [Soil] Sampled 02/28/22 14:45 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 14:45 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 14:45 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 14:45 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-04 SB-6-15 [Soil] Sampled 02/28/22 14:50 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |

**WORK ORDER**

**T220539**

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-05 SB-5-2.5 [Soil] Sampled 02/28/22 15:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 15:15 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 15:15 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 15:15 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-06 SB-5-5 [Soil] Sampled 02/28/22 15:25 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-07 SB-5-10 [Soil] Sampled 02/28/22 15:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 15:30 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 15:30 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 15:30 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-08 SB-5-15 [Soil] Sampled 02/28/22 15:40 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-09 SB-3-2.5 [Soil] Sampled 02/28/22 16:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 16:15 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 16:15 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 16:15 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-10 SB-3-5 [Soil] Sampled 02/28/22 16:25 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-11 SB-3-10 [Soil] Sampled 02/28/22 16:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 16:30 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 16:30 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 16:30 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

## WORK ORDER

## T220539

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-12 SB-3-15 [Soil] Sampled 02/28/22 16:40 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |

**Analysis groups included in this work order**

*6010 Title 22*

| | |
|---|---|
| subgroup 6010B T22 | 7470/71 Hg |

Reviewed By

Date

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

07 March 2022

Valery Naskrent
Equipoise Corporation
1311 Calle Batido, Suite 260
San Clemente, CA 92673

RE: 1628 E. 81st Street, Los Angeles

Enclosed are the results of analyses for samples received by the laboratory on 03/01/22 11:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Joann Marroquin

Joann Marroquin
Director of Operations

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/07/22 16:34 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| SB-6-2.5 | T220539-01 | Soil | 02/28/22 14:25 | 03/01/22 11:55 |
| SB-6-5 | T220539-02 | Soil | 02/28/22 14:30 | 03/01/22 11:55 |

SunStar Laboratories, Inc.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Joann Marroquin

Joann Marroquin, Director of Operations

## DETECTIONS SUMMARY

**Sample ID:** SB-6-2.5 **Laboratory ID:** T220539-01

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Lead | **85** | 0.50 | mg/l | STLC Waste Extraction T | |

**Sample ID:** SB-6-5 **Laboratory ID:** T220539-02

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **74** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **8.9** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **6.8** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **9.8** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **6.8** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **25** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **31** | 1.0 | mg/kg | EPA 6010b | |

Joann Marroquin

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/07/22 16:34 |

## SB-6-2.5

### T220539-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **STLC Metals by 6000/7000 Series Methods** | | | | | | | | | |
| **Lead** | **85** | 0.50 | mg/l | 1 | 2030412 | 03/04/22 | 03/07/22 | STLC Waste Extraction Test | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/07/22 16:34 |

## SB-6-5

### T220539-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2030312 | 03/03/22 | 03/07/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | 03/07/22 | " | |
| Arsenic | ND | 5.0 | " | " | " | " | 03/07/22 | " | |
| **Barium** | **74** | 1.0 | " | " | " | " | 03/07/22 | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/07/22 | " | |
| **Chromium** | **8.9** | 2.0 | " | " | " | " | 03/07/22 | " | |
| **Cobalt** | **6.8** | 2.0 | " | " | " | " | 03/07/22 | " | |
| **Copper** | **9.8** | 1.0 | " | " | " | " | 03/07/22 | " | |
| Lead | ND | 3.0 | " | " | " | " | 03/07/22 | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **6.8** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | 03/07/22 | " | |
| **Vanadium** | **25** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **31** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2030405 | 03/04/22 | 03/07/22 | EPA 7471A Soil | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/07/22 16:34 |

## Metals by EPA 6010B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030312 - EPA 3050B** | | | | | | | | | | |
| **Blank (2030312-BLK1)** | | | | Prepared: 03/03/22 Analyzed: 03/07/22 | | | | | | |
| Antimony | ND | 3.0 | mg/kg | | | | | | | |
| Silver | ND | 2.0 | " | | | | | | | |
| Arsenic | ND | 5.0 | " | | | | | | | |
| Barium | ND | 1.0 | " | | | | | | | |
| Beryllium | ND | 1.0 | " | | | | | | | |
| Cadmium | ND | 2.0 | " | | | | | | | |
| Chromium | ND | 2.0 | " | | | | | | | |
| Cobalt | ND | 2.0 | " | | | | | | | |
| Copper | ND | 1.0 | " | | | | | | | |
| Lead | ND | 3.0 | " | | | | | | | |
| Molybdenum | ND | 5.0 | " | | | | | | | |
| Nickel | ND | 2.0 | " | | | | | | | |
| Selenium | ND | 5.0 | " | | | | | | | |
| Thallium | ND | 5.0 | " | | | | | | | |
| Vanadium | ND | 5.0 | " | | | | | | | |
| Zinc | ND | 1.0 | " | | | | | | | |
| **LCS (2030312-BS1)** | | | | Prepared: 03/03/22 Analyzed: 03/07/22 | | | | | | |
| Arsenic | 85.2 | 5.0 | mg/kg | 100 | | 85.2 | 75-125 | | | |
| Barium | 87.1 | 1.0 | " | 100 | | 87.1 | 75-125 | | | |
| Cadmium | 86.6 | 2.0 | " | 100 | | 86.6 | 75-125 | | | |
| Chromium | 86.5 | 2.0 | " | 100 | | 86.5 | 75-125 | | | |
| Lead | 86.8 | 3.0 | " | 100 | | 86.8 | 75-125 | | | |
| **Matrix Spike (2030312-MS1)** | **Source: T220579-01** | | | Prepared: 03/03/22 Analyzed: 03/07/22 | | | | | | |
| Arsenic | 68.4 | 5.0 | mg/kg | 100 | ND | 68.4 | 75-125 | | | QM-05 |
| Barium | 144 | 1.0 | " | 100 | 68.3 | 75.7 | 75-125 | | | |
| Cadmium | 69.5 | 2.0 | " | 100 | 0.199 | 69.3 | 75-125 | | | QM-05 |
| Chromium | 84.3 | 2.0 | " | 100 | 12.9 | 71.3 | 75-125 | | | QM-05 |
| Lead | 73.5 | 3.0 | " | 100 | 6.83 | 66.6 | 75-125 | | | QM-05 |

|  |  |  |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/07/22 16:34 |

## Metals by EPA 6010B - Quality Control

## SunStar Laboratories, Inc.

**Batch 2030312 - EPA 3050B**

**Matrix Spike Dup (2030312-MSD1)** **Source: T220579-01** Prepared: 03/03/22 Analyzed: 03/07/22

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 64.8 | 5.0 | mg/kg | 100 | ND | 64.8 | 75-125 | 5.45 | 20 | QM-05 |
| Barium | 138 | 1.0 | " | 100 | 68.3 | 69.5 | 75-125 | 4.45 | 20 | QM-05 |
| Cadmium | 66.2 | 2.0 | " | 100 | 0.199 | 66.0 | 75-125 | 4.87 | 20 | QM-05 |
| Chromium | 80.5 | 2.0 | " | 100 | 12.9 | 67.5 | 75-125 | 4.60 | 20 | QM-05 |
| Lead | 70.9 | 3.0 | " | 100 | 6.83 | 64.1 | 75-125 | 3.58 | 20 | QM-05 |

|  |  |  |
|---|---|---|
| Equipoise Corporation | Project: 1628 E. 81st Street, Los Angeles |  |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Valery Naskrent | 03/07/22 16:34 |

## STLC Metals by 6000/7000 Series Methods - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030412 - STLC Metals** |  |  |  |  |  |  |  |  |  |  |
| **Blank (2030412-BLK1)** |  |  |  | Prepared: 03/04/22 Analyzed: 03/07/22 |  |  |  |  |  |  |
| Lead | ND | 0.50 | mg/l |  |  |  |  |  |  |  |
| **LCS (2030412-BS1)** |  |  |  | Prepared: 03/04/22 Analyzed: 03/07/22 |  |  |  |  |  |  |
| Lead | 9.46 | 0.50 | mg/l | 10.0 |  | 94.6 | 75-125 |  |  |  |
| **Matrix Spike (2030412-MS1)** | **Source: T220384-02** |  |  | Prepared: 03/04/22 Analyzed: 03/07/22 |  |  |  |  |  |  |
| Lead | 13.7 | 0.50 | mg/l | 10.0 | 5.35 | 83.1 | 75-125 |  |  |  |
| **Matrix Spike Dup (2030412-MSD1)** | **Source: T220384-02** |  |  | Prepared: 03/04/22 Analyzed: 03/07/22 |  |  |  |  |  |  |
| Lead | 14.1 | 0.50 | mg/l | 10.0 | 5.35 | 87.9 | 75-125 | 3.44 | 30 |  |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

## Cold Vapor Extraction EPA 7470/7471 - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2030405 - EPA 7471A Soil** | | | | | | | | | | |
| **Blank (2030405-BLK1)** | | | | Prepared: 03/04/22 Analyzed: 03/07/22 | | | | | | |
| Mercury | ND | 0.10 | mg/kg | | | | | | | |
| **LCS (2030405-BS1)** | | | | Prepared: 03/04/22 Analyzed: 03/07/22 | | | | | | |
| Mercury | 0.363 | 0.10 | mg/kg | 0.391 | | 92.9 | 80-120 | | | |
| **Matrix Spike (2030405-MS1)** | **Source: T220586-01** | | | Prepared: 03/04/22 Analyzed: 03/07/22 | | | | | | |
| Mercury | 0.401 | 0.10 | mg/kg | 0.397 | ND | 101 | 75-125 | | | |
| **Matrix Spike Dup (2030405-MSD1)** | **Source: T220586-01** | | | Prepared: 03/04/22 Analyzed: 03/07/22 | | | | | | |
| Mercury | 0.413 | 0.10 | mg/kg | 0.397 | ND | 104 | 75-125 | 2.88 | 20 | |

| | | | |
|---|---|---|---|
| Equipoise Corporation | Project: | 1628 E. 81st Street, Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Valery Naskrent | 03/07/22 16:34 |

## Notes and Definitions

| | |
|---|---|
| QM-05 | The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

# Chain of Custody Record

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Client: Equipoise Corp
Address: San clemente
Phone: Fax:
Project Manager: Valay NasFrent

Date: 2/28/2022 Page: 1 Of 1
Project Name: 81st LA
Collector: Oscar Jdle
Client Project #:
Batch #: T220539
EDF #:

| Sample ID | Date Sampled | Time | Sample Type | Container Type | 8260B/5035 TPH as gas C4-C12 | ~~8260 + OXY~~ 8260B/5035 VOCs + OXYs | 8260 BTEX, OXY only | 8270 | 8021 BTEX | 8015M (gasoline) | 8015B (diesel) C13-C22 | 8015M Ext./Carbon Chain | 6010/7000 Title 22 Metals | 6020 ICP-MS Metals | 8015B (motor oil) C17-C44 | 6010B/7471A title 22 + mercury | | Laboratory ID # | Comments/Preservative | Total # of containers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB-6-2.5 | 2/28/22 | 1425 | soil | voas n sleeve | X | X | | | | | X | | | | X | X | | 01 | | |
| SB-6-5 | | 1430 | | | X | X | | | | | X | | | | X | X | | 02 | Hold | |
| SB-6-10 | | 1445 | | | X | X | | | | | X | | | | X | X | | 03 | | |
| SB-6-15 | | 1450 | | | X | X | | | | | X | | | | X | X | | 04 | Hold | |
| SB-5-2.5 | | 1515 | | | X | X | | | | | X | | | | X | X | | 05 | | |
| SB-5-5 | | 1525 | | | X | X | | | | | X | | | | X | X | | 06 | Hold | |
| SB-5-10 | | 1530 | | | X | X | | | | | X | | | | X | X | | 07 | | |
| SB-5-15 | | 1540 | | | X | X | | | | | X | | | | X | X | | 08 | Hold | |
| SB-3-2.5 | | 1615 | | | X | X | | | | | X | | | | X | X | | 09 | | |
| SB-3-5 | | 1625 | | | X | X | | | | | X | | | | X | X | | 10 | Hold | |
| SB-3-10 | | 1630 | | | X | X | | | | | X | | | | X | X | | 11 | | |
| SB-3-15 | 2/28/22 | 1640 | soil | | X | X | | | | | X | | | | X | X | | 12 | Hold | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | voas n sleeve | | | | | | | | | | | | | | | | |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Date / Time |
|---|---|---|---|
| | 3/1/22 1010 | Paul | 3/1/22 10:10 |
| Paul | 3/1/22 11:55 | | 3/1/22 11:55 |
| | | | |

Total # of containers
Chain of Custody seals Y/N/NA: N
Seals intact? Y/N/NA: NA
Received good condition/cold: 4.3°C

Turn around time: 48 hrs

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

**SunStar Laboratories, Inc.**
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Rev. 02 Date 07/19
Receiving Form 001

# SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T220539

Client Name: Equipoise

Project: 81 st LA

Delivered by: ☐ Client ☑ SunStar Courier ☐ GLS ☐ FedEx ☐ UPS

If Courier, Received by: Paul

Date/Time Courier Received: 3/1/22 10:10

Lab Received by: Jennifer

Date/Time Lab Received: 3/1/22 11:55

Total number of coolers received: 1

Thermometer ID: SC-1

Calibration due: 8/24/22

Temperature: Cooler #1 4.2 °C +/- the CF (+0.1 °C) = 4.3 °C corrected temperature

Temperature: Cooler #2 °C +/- the CF (+0.1 °C) = °C corrected temperature

Temperature: Cooler #3 °C +/- the CF (+0.1 °C) = °C corrected temperature

**Temperature criteria = ≤ 6°C (no frozen containers)** Within criteria? ☑ **Yes** ☐ **No** ☐ **N/A**

**If NO:**

Samples received on ice? ☐ Yes ☐ **No → Complete Non-Conformance Sheet**

If on ice, samples received same day collected? ☐ Yes → Acceptable ☐ **No → Complete Non-Conformance Sheet**

| | | | |
|---|---|---|---|
| Custody seals intact on cooler/sample | ☐ Yes | ☐ No* | ☑ N/A |
| Sample containers intact | ☑ Yes | ☐ No* | |
| Sample labels match Chain of Custody IDs | ☑ Yes | ☐ No* | |
| Total number of containers received match COC | ☑ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☑ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☑ Yes | ☐ No* | ☐ N/A |
| Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times | ☑ **Yes** | ☐ **No*** | |

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: PB 3/1/22

**Comments:**

Page 1 of 1

# Joann Marroquin

| | |
|---|---|
| **From:** | valery.naskrent@equipoisecorp.com |
| **Sent:** | Thursday, March 3, 2022 5:07 PM |
| **To:** | Joann Marroquin |
| **Subject:** | RE: Final Report and Invoice for 1628 E. 81rst Street, Los Angeles (T220539) |

Hi Joann,

We are going to need to re-run the SB-6-2.5 sample for soluble lead. Also we will need to run the SB-6-5 sample for metals analysis now. If lead comes back above 50 mg/kg you are authorized to run for soluble lead as well. Quickest TAT possible on both please.

Thanks,

---

Valery Naskrent, GIT
Project Geologist I
EQUIPOISE
2888 Loker Avenue East, Suite 109
Carlsbad, California 92010 USA
Office: 760.658.9889
Mobile: 619.888.8645
Environmental Solutions for the Blue Planet

---

**From:** Joann Marroquin <joann@sunstarlabs.com>
**Sent:** Thursday, March 3, 2022 4:09 PM
**To:** valery.naskrent@equipoisecorp.com; Oscar Teller <oscar.teller@equipoisecorp.com>
**Cc:** Cathy Hartman <accounting@sunstarlabs.com>; Hazard Mark S. Cousineau - HAZARD MANAGEMENT CONSULTING (markc@hmcinc.biz) <markc@hmcinc.biz>
**Subject:** Final Report and Invoice for 1628 E. 81rst Street, Los Angeles (T220539)

Please find attached the final report and invoice for:

Project Name: **1628 E. 81rst Street, Los Angeles**
Project Number: **-**

Thank you for choosing SunStar! We appreciate your business!

**Joann Marroquin**
Director of Operations

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Dr., Lake Forest, CA 92630
Office: (949) 297-5020 | Mobile: (949) 459-3124
ELAP Accreditation: 2250 | CA Small Business Certification: 31511
ISO/IEC 17025 Accreditation: AT-2542

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

## WORK ORDER

## T220539

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

**Report To:**

Equipoise Corporation
Valery Naskrent
1311 Calle Batido, Suite 260
San Clemente, CA 92673

| | | | |
|---|---|---|---|
| Date Due: | 03/03/22 17:00 (2 day TAT) | | |
| Received By: | Jennifer Berger | Date Received: | 03/01/22 11:55 |
| Logged In By: | Jennifer Berger | Date Logged In: | 03/01/22 12:01 |

| | | | |
|---|---|---|---|
| Samples Received at: | **4.3°C** | | |
| Custody Seals | No | Received On Ice | Yes |
| Containers Intact | Yes | | |
| COC/Labels Agree | Yes | | |
| Preservation Confirme | Yes | | |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-01 SB-6-2.5 [Soil] Sampled 02/28/22 14:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 14:25 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 14:25 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 14:25 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-02 SB-6-5 [Soil] Sampled 02/28/22 14:30 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-03 SB-6-10 [Soil] Sampled 02/28/22 14:45 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 14:45 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 14:45 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 14:45 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-04 SB-6-15 [Soil] Sampled 02/28/22 14:50 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |

**WORK ORDER**

**T220539**

**Client:** **Equipoise Corporation**
**Project:** **1628 E. 81st Street, Los Angeles**
**Project Manager:** **Joann Marroquin**
**Project Number:** **[none]**

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-05 SB-5-2.5 [Soil] Sampled 02/28/22 15:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 15:15 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 15:15 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 15:15 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-06 SB-5-5 [Soil] Sampled 02/28/22 15:25 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-07 SB-5-10 [Soil] Sampled 02/28/22 15:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 15:30 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 15:30 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 15:30 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-08 SB-5-15 [Soil] Sampled 02/28/22 15:40 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-09 SB-3-2.5 [Soil] Sampled 02/28/22 16:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 16:15 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 16:15 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 16:15 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-10 SB-3-5 [Soil] Sampled 02/28/22 16:25 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-11 SB-3-10 [Soil] Sampled 02/28/22 16:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 16:30 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 16:30 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 16:30 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |

**WORK ORDER**

**T220539**

|  |  |  |  |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-12 SB-3-15 [Soil] Sampled 02/28/22 16:40 (GMT-08:00) Pacific Time (US &** |  |  |  | **HOLD** |
| [NO ANALYSES] |  |  |  |  |

**Analysis groups included in this work order**

*6010 Title 22*

| | |
|---|---|
| subgroup 6010B T22 | 7470/71 Hg |

Reviewed By

Date

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**Printed: 3/4/2022 1:28:10PM**

## WORK ORDER

## T220539

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

**Report To:**

Equipoise Corporation
Valery Naskrent
1311 Calle Batido, Suite 260
San Clemente, CA 92673

| | | | |
|---|---|---|---|
| Date Due: | 03/07/22 17:00 (4 day TAT) | | |
| Received By: | Jennifer Berger | Date Received: | 03/01/22 11:55 |
| Logged In By: | Jennifer Berger | Date Logged In: | 03/01/22 12:01 |

| | | | |
|---|---|---|---|
| Samples Received at: | **4.3°C** | | |
| Custody Seals | No | Received On Ice | Yes |
| Containers Intact | Yes | | |
| COC/Labels Agree | Yes | | |
| Preservation Confirme | Yes | | |

| **Analysis** | **Due** | **TAT** | **Expires** | **Comments** |
|---|---|---|---|---|
| **T220539-01 SB-6-2.5 [Soil] Sampled 02/28/22 14:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 14:25 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 14:25 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 14:25 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| STLC Pb | 03/07/22 15:00 | 2 | 08/27/22 14:25 | |
| STLC Leaching Procedure Metals | 03/07/22 15:00 | 2 | 08/27/22 14:25 | |
| **T220539-02 SB-6-5 [Soil] Sampled 02/28/22 14:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 08/27/22 14:30 | |
| **T220539-03 SB-6-10 [Soil] Sampled 02/28/22 14:45 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 14:45 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 14:45 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 14:45 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-04 SB-6-15 [Soil] Sampled 02/28/22 14:50 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |

## WORK ORDER

## T220539

**Client:** Equipoise Corporation
**Project:** 1628 E. 81st Street, Los Angeles
**Project Manager:** Joann Marroquin
**Project Number:** [none]

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-05 SB-5-2.5 [Soil] Sampled 02/28/22 15:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 15:15 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 15:15 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 15:15 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-06 SB-5-5 [Soil] Sampled 02/28/22 15:25 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-07 SB-5-10 [Soil] Sampled 02/28/22 15:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 15:30 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 15:30 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 15:30 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-08 SB-5-15 [Soil] Sampled 02/28/22 15:40 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-09 SB-3-2.5 [Soil] Sampled 02/28/22 16:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 16:15 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 16:15 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 16:15 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |
| **T220539-10 SB-3-5 [Soil] Sampled 02/28/22 16:25 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |
| **T220539-11 SB-3-10 [Soil] Sampled 02/28/22 16:30 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/03/22 15:00 | 2 | 03/05/22 16:30 | |
| 8015 CC (D/MO) | 03/03/22 15:00 | 2 | 03/14/22 16:30 | |
| 8015 m 5035-GRO | 03/03/22 15:00 | 2 | 03/14/22 16:30 | |
| 8260 5035 | 03/03/22 15:00 | 2 | 03/14/22 23:59 | +OXY |

**Printed: 3/4/2022 1:28:10PM**

**WORK ORDER**

**T220539**

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **1628 E. 81st Street, Los Angeles** | **Project Number:** | **[none]** |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220539-12 SB-3-15 [Soil] Sampled 02/28/22 16:40 (GMT-08:00) Pacific Time (US &** | | | | **HOLD** |
| [NO ANALYSES] | | | | |

**Analysis groups included in this work order**

*6010 Title 22*

subgroup 6010B T22 7470/71 Hg

Reviewed By

Date

SunStar
Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

22 March 2022

Melissa Robinson
Equipoise Corporation
1311 Calle Batido, Suite 260
San Clemente, CA 92673

RE: 81st Los Angeles

Enclosed are the results of analyses for samples received by the laboratory on 03/18/22 13:58. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Joann Marroquin

Joann Marroquin
Director of Operations

Equipoise Corporation
1311 Calle Batido, Suite 260
San Clemente CA, 92673

Project: 81st Los Angeles
Project Number: [none]
Project Manager: Melissa Robinson

**Reported:**
03/22/22 15:43

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| SB6-SO-3-2.5 | T220754-01 | Soil | 03/18/22 08:00 | 03/18/22 13:58 |
| SB6-SO-3-5 | T220754-02 | Soil | 03/18/22 08:05 | 03/18/22 13:58 |
| SB6-SO-4-2.5 | T220754-03 | Soil | 03/18/22 08:15 | 03/18/22 13:58 |
| SB6-SO-4-5 | T220754-04 | Soil | 03/18/22 08:20 | 03/18/22 13:58 |
| SB6-SO-5-2.5 | T220754-05 | Soil | 03/18/22 08:40 | 03/18/22 13:58 |
| SB6-SO-5-5 | T220754-06 | Soil | 03/18/22 08:50 | 03/18/22 13:58 |
| SB6-SO-6-2.5 | T220754-07 | Soil | 03/18/22 09:05 | 03/18/22 13:58 |
| SB6-SO-6-5 | T220754-08 | Soil | 03/18/22 09:25 | 03/18/22 13:58 |
| SB6-SO-1-2 | T220754-09 | Soil | 03/18/22 10:00 | 03/18/22 13:58 |
| SB6-SO-2-2.5 | T220754-10 | Soil | 03/18/22 10:10 | 03/18/22 13:58 |
| SB6-SO-2-5 | T220754-11 | Soil | 03/18/22 10:25 | 03/18/22 13:58 |
| SB6-SO-8-2.5 | T220754-12 | Soil | 03/18/22 10:35 | 03/18/22 13:58 |
| SB6-SO-8-5 | T220754-13 | Soil | 03/18/22 10:45 | 03/18/22 13:58 |
| SB6-SO-7-2.5 | T220754-14 | Soil | 03/18/22 11:00 | 03/18/22 13:58 |
| SB6-SO-7-5 | T220754-15 | Soil | 03/18/22 11:15 | 03/18/22 13:58 |

This report was revised to correct the "50" to "SO" in all sample ID's.

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

Equipoise Corporation
1311 Calle Batido, Suite 260
San Clemente CA, 92673

Project: 81st Los Angeles
Project Number: [none]
Project Manager: Melissa Robinson

**Reported:**
03/22/22 15:43

## DETECTIONS SUMMARY

**Sample ID:** SB6-SO-3-2.5 **Laboratory ID:** T220754-01

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **76** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.8** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **7.2** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **10** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **7.1** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **25** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **36** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-3-5 **Laboratory ID:** T220754-02

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **70** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **8.9** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **6.1** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **9.6** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **6.0** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **6.5** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **21** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **33** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-4-2.5 **Laboratory ID:** T220754-03

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **75** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.9** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **7.1** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **11** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **3.2** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **7.0** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **25** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **35** | 1.0 | mg/kg | EPA 6010b | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

**Sample ID:** SB6-SO-4-5 **Laboratory ID:** T220754-04

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **80** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.3** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **7.4** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **11** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **7.6** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **25** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **36** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-5-2.5 **Laboratory ID:** T220754-05

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **90** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **12** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **8.7** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **15** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **5.4** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **9.1** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **30** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **44** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-5-5 **Laboratory ID:** T220754-06

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **83** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.1** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **6.7** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **11** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **3.6** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **7.9** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **23** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **34** | 1.0 | mg/kg | EPA 6010b | |

Equipoise Corporation
1311 Calle Batido, Suite 260
San Clemente CA, 92673

Project: 81st Los Angeles
Project Number: [none]
Project Manager: Melissa Robinson

**Reported:**
03/22/22 15:43

**Sample ID:** SB6-SO-6-2.5 **Laboratory ID:** T220754-07

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **82** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **11** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **7.3** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **13** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **6.9** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **7.9** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **25** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **43** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-6-5 **Laboratory ID:** T220754-08

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **82** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.5** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **6.6** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **11** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **8.3** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **25** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **34** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-1-2 **Laboratory ID:** T220754-09

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **78** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.1** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **6.6** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **11** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **7.9** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **6.6** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **22** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **42** | 1.0 | mg/kg | EPA 6010b | |
| Mercury | **0.14** | 0.10 | mg/kg | EPA 7471A Soil | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

**Sample ID:** SB6-SO-2-2.5 **Laboratory ID:** T220754-10

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **87** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.9** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **7.4** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **13** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **3.1** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **7.2** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **25** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **39** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-2-5 **Laboratory ID:** T220754-11

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **75** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **8.8** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **6.3** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **9.9** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **6.9** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **22** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **32** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-8-2.5 **Laboratory ID:** T220754-12

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **73** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.1** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **7.0** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **11** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **6.6** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **24** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **35** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-8-5 **Laboratory ID:** T220754-13

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|

Joann Marroquin

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

**Sample ID:** SB6-SO-8-5 **Laboratory ID:** T220754-13

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **98** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.4** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **6.8** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **12** | 1.0 | mg/kg | EPA 6010b | |
| Nickel | **7.6** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **24** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **34** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-7-2.5 **Laboratory ID:** T220754-14

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **78** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **10** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **7.3** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **12** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **7.8** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **7.6** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **24** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **40** | 1.0 | mg/kg | EPA 6010b | |

**Sample ID:** SB6-SO-7-5 **Laboratory ID:** T220754-15

| Analyte | Result | Reporting Limit | Units | Method | Notes |
|---|---|---|---|---|---|
| Barium | **71** | 1.0 | mg/kg | EPA 6010b | |
| Chromium | **9.4** | 2.0 | mg/kg | EPA 6010b | |
| Cobalt | **5.8** | 2.0 | mg/kg | EPA 6010b | |
| Copper | **14** | 1.0 | mg/kg | EPA 6010b | |
| Lead | **130** | 3.0 | mg/kg | EPA 6010b | |
| Nickel | **7.5** | 2.0 | mg/kg | EPA 6010b | |
| Vanadium | **21** | 5.0 | mg/kg | EPA 6010b | |
| Zinc | **41** | 1.0 | mg/kg | EPA 6010b | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-3-2.5

### T220754-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | **SunStar Laboratories, Inc.** | | | | | | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **76** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **9.8** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **7.2** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **10** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.1** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **25** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **36** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A Soil | |

| | | | |
|---|---|---|---|
| Equipoise Corporation | Project: | 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-3-5

### T220754-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

### SunStar Laboratories, Inc.

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **70** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **8.9** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **6.1** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **9.6** | 1.0 | " | " | " | " | " | " | |
| **Lead** | **6.0** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **6.5** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **21** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **33** | 1.0 | " | " | " | " | " | " | |

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A<br>Soil | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

| | | | |
|---|---|---|---|
| Equipoise Corporation | Project: | 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-4-2.5

### T220754-03 (Soil)

**SunStar Laboratories, Inc.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **75** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | 03/22/22 | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/22/22 | " | |
| **Chromium** | **9.9** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **7.1** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **11** | 1.0 | " | " | " | " | " | " | |
| **Lead** | **3.2** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.0** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **25** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **35** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A Soil | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-4-5

### T220754-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **80** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **9.3** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **7.4** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **11** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.6** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **25** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **36** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A Soil | |

## SB6-SO-5-2.5

### T220754-05 (Soil)

### SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **90** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **12** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **8.7** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **15** | 1.0 | " | " | " | " | " | " | |
| **Lead** | **5.4** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **9.1** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **30** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **44** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A Soil | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-5-5

### T220754-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **83** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | 03/22/22 | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/22/22 | " | |
| **Chromium** | **9.1** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **6.7** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **11** | 1.0 | " | " | " | " | " | " | |
| **Lead** | **3.6** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.9** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **23** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **34** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A Soil | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-6-2.5

### T220754-07 (Soil)

### SunStar Laboratories, Inc.

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **82** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | 03/22/22 | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/22/22 | " | |
| **Chromium** | **11** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **7.3** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **13** | 1.0 | " | " | " | " | " | " | |
| **Lead** | **6.9** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.9** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **25** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **43** | 1.0 | " | " | " | " | " | " | |

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A Soil | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-6-5

### T220754-08 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **82** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **9.5** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **6.6** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **11** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **8.3** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **25** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **34** | 1.0 | " | " | " | " | " | " | |

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A Soil | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-1-2

### T220754-09 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **78** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **9.1** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **6.6** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **11** | 1.0 | " | " | " | " | " | " | |
| **Lead** | **7.9** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **6.6** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **22** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **42** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| **Mercury** | **0.14** | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A Soil | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-2-2.5

### T220754-10 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

### SunStar Laboratories, Inc.

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **87** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | 03/22/22 | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/22/22 | " | |
| **Chromium** | **9.9** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **7.4** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **13** | 1.0 | " | " | " | " | " | " | |
| **Lead** | **3.1** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.2** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **25** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **39** | 1.0 | " | " | " | " | " | " | |

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A Soil | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-2-5

### T220754-11 (Soil)

### SunStar Laboratories, Inc.

**Metals by EPA 6010B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **75** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | 03/22/22 | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/22/22 | " | |
| **Chromium** | **8.8** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **6.3** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **9.9** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **6.9** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **22** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **32** | 1.0 | " | " | " | " | " | " | |

**Cold Vapor Extraction EPA 7470/7471**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A<br>Soil | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-8-2.5

### T220754-12 (Soil)

### SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | 03/22/22 | " | |
| Arsenic | ND | 5.0 | " | " | " | " | 03/22/22 | " | |
| **Barium** | **73** | 1.0 | " | " | " | " | 03/22/22 | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | 03/22/22 | " | |
| **Chromium** | **9.1** | 2.0 | " | " | " | " | 03/22/22 | " | |
| **Cobalt** | **7.0** | 2.0 | " | " | " | " | 03/22/22 | " | |
| **Copper** | **11** | 1.0 | " | " | " | " | 03/22/22 | " | |
| Lead | ND | 3.0 | " | " | " | " | 03/22/22 | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **6.6** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | 03/22/22 | " | |
| **Vanadium** | **24** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **35** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A<br>Soil | |

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-8-5

### T220754-13 (Soil)

### SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **98** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **9.4** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **6.8** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **12** | 1.0 | " | " | " | " | " | " | |
| Lead | ND | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.6** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **24** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **34** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A<br>Soil | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-7-2.5

## T220754-14 (Soil)

### SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **78** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **10** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **7.3** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **12** | 1.0 | " | " | " | " | " | " | |
| **Lead** | **7.8** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.6** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **24** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **40** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A Soil | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## SB6-SO-7-5

### T220754-15 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Metals by EPA 6010B** | | | | | | | | | |
| Antimony | ND | 3.0 | mg/kg | 1 | 2031813 | 03/18/22 | 03/22/22 | EPA 6010b | |
| Silver | ND | 2.0 | " | " | " | " | " | " | |
| Arsenic | ND | 5.0 | " | " | " | " | " | " | |
| **Barium** | **71** | 1.0 | " | " | " | " | " | " | |
| Beryllium | ND | 1.0 | " | " | " | " | " | " | |
| Cadmium | ND | 2.0 | " | " | " | " | " | " | |
| **Chromium** | **9.4** | 2.0 | " | " | " | " | " | " | |
| **Cobalt** | **5.8** | 2.0 | " | " | " | " | " | " | |
| **Copper** | **14** | 1.0 | " | " | " | " | " | " | |
| **Lead** | **130** | 3.0 | " | " | " | " | " | " | |
| Molybdenum | ND | 5.0 | " | " | " | " | " | " | |
| **Nickel** | **7.5** | 2.0 | " | " | " | " | " | " | |
| Selenium | ND | 5.0 | " | " | " | " | " | " | |
| Thallium | ND | 5.0 | " | " | " | " | " | " | |
| **Vanadium** | **21** | 5.0 | " | " | " | " | " | " | |
| **Zinc** | **41** | 1.0 | " | " | " | " | " | " | |
| **Cold Vapor Extraction EPA 7470/7471** | | | | | | | | | |
| Mercury | ND | 0.10 | mg/kg | 1 | 2031815 | 03/18/22 | 03/22/22 | EPA 7471A<br>Soil | |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## Metals by EPA 6010B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2031813 - EPA 3050B** | | | | | | | | | | |
| **Blank (2031813-BLK1)** | | | | Prepared: 03/18/22 Analyzed: 03/22/22 | | | | | | |
| Antimony | ND | 3.0 | mg/kg | | | | | | | |
| Silver | ND | 2.0 | " | | | | | | | |
| Arsenic | ND | 5.0 | " | | | | | | | |
| Barium | ND | 1.0 | " | | | | | | | |
| Beryllium | ND | 1.0 | " | | | | | | | |
| Cadmium | ND | 2.0 | " | | | | | | | |
| Chromium | ND | 2.0 | " | | | | | | | |
| Cobalt | ND | 2.0 | " | | | | | | | |
| Copper | ND | 1.0 | " | | | | | | | |
| Lead | ND | 3.0 | " | | | | | | | |
| Molybdenum | ND | 5.0 | " | | | | | | | |
| Nickel | ND | 2.0 | " | | | | | | | |
| Selenium | ND | 5.0 | " | | | | | | | |
| Thallium | ND | 5.0 | " | | | | | | | |
| Vanadium | ND | 5.0 | " | | | | | | | |
| Zinc | ND | 1.0 | " | | | | | | | |
| **LCS (2031813-BS1)** | | | | Prepared: 03/18/22 Analyzed: 03/22/22 | | | | | | |
| Arsenic | 91.8 | 5.0 | mg/kg | 100 | | 91.8 | 75-125 | | | |
| Barium | 92.7 | 1.0 | " | 100 | | 92.7 | 75-125 | | | |
| Cadmium | 92.9 | 2.0 | " | 100 | | 92.9 | 75-125 | | | |
| Chromium | 91.0 | 2.0 | " | 100 | | 91.0 | 75-125 | | | |
| Lead | 92.2 | 3.0 | " | 100 | | 92.2 | 75-125 | | | |
| **Matrix Spike (2031813-MS1)** | **Source: T220754-01** | | | Prepared: 03/18/22 Analyzed: 03/22/22 | | | | | | |
| Arsenic | 70.6 | 5.0 | mg/kg | 100 | ND | 70.6 | 75-125 | | | QM-05 |
| Barium | 151 | 1.0 | " | 100 | 76.4 | 74.6 | 75-125 | | | QM-05 |
| Cadmium | 69.1 | 2.0 | " | 100 | 0.319 | 68.8 | 75-125 | | | QM-05 |
| Chromium | 79.5 | 2.0 | " | 100 | 9.77 | 69.8 | 75-125 | | | QM-05 |
| Lead | 70.3 | 3.0 | " | 100 | 2.78 | 67.5 | 75-125 | | | QM-05 |

## Metals by EPA 6010B - Quality Control

## SunStar Laboratories, Inc.

**Batch 2031813 - EPA 3050B**

**Matrix Spike Dup (2031813-MSD1)** **Source: T220754-01** Prepared: 03/18/22 Analyzed: 03/22/22

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 68.9 | 5.0 | mg/kg | 100 | ND | 68.9 | 75-125 | 2.39 | 20 | QM-05 |
| Barium | 140 | 1.0 | " | 100 | 76.4 | 63.8 | 75-125 | 7.44 | 20 | QM-05 |
| Cadmium | 68.3 | 2.0 | " | 100 | 0.319 | 68.0 | 75-125 | 1.18 | 20 | QM-05 |
| Chromium | 76.7 | 2.0 | " | 100 | 9.77 | 67.0 | 75-125 | 3.59 | 20 | QM-05 |
| Lead | 67.4 | 3.0 | " | 100 | 2.78 | 64.6 | 75-125 | 4.24 | 20 | QM-05 |

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/22/22 15:43 |

## Cold Vapor Extraction EPA 7470/7471 - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2031815 - EPA 7471A Soil** | | | | | | | | | | |
| **Blank (2031815-BLK1)** | | | | Prepared: 03/18/22 Analyzed: 03/22/22 | | | | | | |
| Mercury | ND | 0.10 | mg/kg | | | | | | | |
| **LCS (2031815-BS1)** | | | | Prepared: 03/18/22 Analyzed: 03/22/22 | | | | | | |
| Mercury | 0.348 | 0.10 | mg/kg | 0.391 | | 89.1 | 80-120 | | | |
| **Matrix Spike (2031815-MS1)** | **Source: T220754-01** | | | Prepared: 03/18/22 Analyzed: 03/22/22 | | | | | | |
| Mercury | 0.389 | 0.10 | mg/kg | 0.391 | ND | 99.6 | 75-125 | | | |
| **Matrix Spike Dup (2031815-MSD1)** | **Source: T220754-01** | | | Prepared: 03/18/22 Analyzed: 03/22/22 | | | | | | |
| Mercury | 0.375 | 0.10 | mg/kg | 0.397 | ND | 94.6 | 75-125 | 3.61 | 20 | |

| | | | |
|---|---|---|---|
| Equipoise Corporation | Project: | 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Melissa Robinson | 03/22/22 15:43 |

## Notes and Definitions

| | |
|---|---|
| QM-05 | The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

# Chain of Custody Record

**SunStar Laboratories, Inc.**
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Client: Equipoise corporation
Address: 1311 calle Batido 250/260, San clemente.
Phone: 
Fax: 
Project Manager: Melissa Robinson

Date: 3/18/2022
Page: 1 Of 1
Project Name: 81st Los Angeles
Collector: Oscar Teller
Client Project #: 
Batch #: T220754
EDF #:

| Sample ID | Date Sampled | Time | Sample Type | Container Type | 8260 | 8260 + OXY | 8260 BTEX, OXY only | 8270 | 8021 BTEX | 8015M (gasoline) | 8015M (diesel) | 8015M Ext./Carbon Chain | 6010/7000 Title 22 Metals | 6020 ICP-MS Metals | Title 22 metals 6010M | | | Laboratory ID # | Comments/Preservative | Total # of containers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB6-50-3-2.5 | 3/18/22 | 0800 | Soil | 8oz Jar | | | | | | | | | | | x | | | 1 | | |
| SB6-50-3-5 | | 0805 | | | | | | | | | | | | | x | | | 2 | | |
| SB6-50-4-2.5 | | 0815 | | | | | | | | | | | | | x | | | 3 | | |
| SB6-50-4-5 | | 0820 | | | | | | | | | | | | | x | | | 4 | | |
| SB6-50-5-2.5 | | 0840 | | | | | | | | | | | | | x | | | 5 | | |
| SB6-50-5-5 | | 0850 | | | | | | | | | | | | | x | | | 6 | | |
| SB6-50-6-2.5 | | 0905 | | | | | | | | | | | | | x | | | 7 | | |
| SB6-50-6-5 | | 0925 | | | | | | | | | | | | | x | | | 8 | | |
| SB6-50-1-2 | | 1000 | | | | | | | | | | | | | x | | | 9 | | |
| ~~SB6-50-1-5~~ | | | | | | | | | | | | | | | ~~x~~ | | | | | |
| SB6-50-2-2.5 | | 1010 | | | | | | | | | | | | | x | | | 10 | | |
| SB6-50-2-5 | | 1025 | | | | | | | | | | | | | x | | | 11 | | |
| SB6-50-8-2.5 | | 1035 | | | | | | | | | | | | | x | | | 12 | | |
| SB6-50-8-5 | | 1045 | | | | | | | | | | | | | x | | | 13 | | |
| SB6-50-7-2.5 | | 1100 | | | | | | | | | | | | | x | | | 14 | | |
| SB6-50-7-5 | 3/18/22 | 1115 | Soil | 8oz Jar | | | | | | | | | | | x | | | 15 | | |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Date / Time |
|---|---|---|---|
| | 3.18.22 1217 | | 3.18.22 1217 |
| | 3.18.22 1358 | | 3.18.22 1358 |
| | | | |

Total # of containers: 
Chain of Custody seals Y/[✓ N]/NA
Seals intact? Y/N/[✓ NA]
Received good condition/cold 3.3 °C
**Turn around time:** 48-hours

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

**SunStar Laboratories, Inc.**
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Rev. 02 Date 07/19
Receiving Form 001

# SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T220754

Client Name: Equipoise Project: 81st Los Angeles

Delivered by: ☐ Client ☒ SunStar Courier ☐ GLS ☐ FedEx ☐ UPS

If Courier, Received by: Dave Date/Time Courier Received: 3/18/22 12:17

Lab Received by: Jennifer Date/Time Lab Received: 3/18/22 13:58

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due: 8/24/22

Temperature: Cooler #1 3.2 °C +/- the CF (+0.1 °C) = 3.3 °C corrected temperature

Temperature: Cooler #2 °C +/- the CF (+0.1 °C) = °C corrected temperature

Temperature: Cooler #3 °C +/- the CF (+0.1 °C) = °C corrected temperature

**Temperature criteria = ≤ 6°C (no frozen containers)** Within criteria? ☒ **Yes** ☐ **No** ☐ **N/A**

**If NO:**

Samples received on ice? ☐ Yes ☐ **No →** **Complete Non-Conformance Sheet**

If on ice, samples received same day collected? ☐ Yes → Acceptable ☐ **No →** **Complete Non-Conformance Sheet**

Custody seals intact on cooler/sample ☐ Yes ☐ No* ☒ N/A

Sample containers intact ☒ Yes ☐ No*

Sample labels match Chain of Custody IDs ☒ Yes ☐ No*

Total number of containers received match COC ☒ Yes ☐ No*

Proper containers received for analyses requested on COC ☒ Yes ☐ No*

Proper preservative indicated on COC/containers for analyses requested ☐ Yes ☐ No* ☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: JB 3/18/22

**Comments:**

Page 1 of 1

## Joann Marroquin

---

| | |
|---|---|
| **From:** | Melissa Robinson <melissa.robinson@equipoisecorp.com> |
| **Sent:** | Tuesday, March 22, 2022 3:28 PM |
| **To:** | Joann Marroquin |
| **Cc:** | Oscar Teller; Cathy Hartman; Hazard Mark S. Cousineau - HAZARD MANAGEMENT CONSULTING (markc@hmcinc.biz); deniset@hmcinc.biz |
| **Subject:** | Re: Final Report and Invoice for 81rst Los Angeles (T220754) |
| **Attachments:** | T220754f 81rst Los Angeles.pdf; T220754 FINAL EXCEL 22 Mar 22 1447.xls; SSL22-0754.pdf |

Hello Joann,

Please analyze sample SB6-SO-7-5 for STLC and TCLP lead on a 3 day TAT.

Thank you,

Melissa

Sent from my iPhone

> On Mar 22, 2022, at 3:02 PM, Joann Marroquin <joann@sunstarlabs.com> wrote:
>
> Please find attached the final report and invoice for:
>
> Project Name: **81rst Los Angeles**
> Project Number: **-**
>
> **Sample ID SB6-50-7-5 (T220754-15) had a Lead result of 130 mg/kg, which is over the STLC and TCLP threshold. Please let me know if you would like me to add those analyses and if so, the requested TAT.**
>
> Thank you for choosing SunStar! We appreciate your business!

**Joann Marroquin**
Director of Operations

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Dr., Lake Forest, CA 92630
Office: (949) 297-5020 | Mobile: (949) 459-3124
ELAP Accreditation: 2250 | CA Small Business Certification: 31511
ISO/IEC 17025 Accreditation: AT-2542

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**Printed: 3/18/2022 2:52:36PM**

## WORK ORDER

## T220754

**Client:** **Equipoise Corporation**
**Project:** **81st Los Angeles**
**Project Manager:** **Joann Marroquin**
**Project Number:** **[none]**

**Report To:**

Equipoise Corporation
Melissa Robinson
1311 Calle Batido, Suite 260
San Clemente, CA 92673

| | | | |
|---|---|---|---|
| Date Due: | 03/22/22 17:00 (2 day TAT) | | |
| Received By: | Jennifer Berger | Date Received: | 03/18/22 13:58 |
| Logged In By: | Jennifer Berger | Date Logged In: | 03/18/22 14:47 |

Samples Received at: **3.3°C**
Custody Seals No Received On Ice Yes
Containers Intact Yes
COC/Labels Agree Yes
Preservation Confirme No

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220754-01 SB6-50-3-2.5 [Soil] Sampled 03/18/22 08:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:00 | |
| **T220754-02 SB6-50-3-5 [Soil] Sampled 03/18/22 08:05 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:05 | |
| **T220754-03 SB6-50-4-2.5 [Soil] Sampled 03/18/22 08:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:15 | |
| **T220754-04 SB6-50-4-5 [Soil] Sampled 03/18/22 08:20 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:20 | |
| **T220754-05 SB6-50-5-2.5 [Soil] Sampled 03/18/22 08:40 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:40 | |
| **T220754-06 SB6-50-5-5 [Soil] Sampled 03/18/22 08:50 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:50 | |
| **T220754-07 SB6-50-6-2.5 [Soil] Sampled 03/18/22 09:05 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 09:05 | |

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**Printed: 3/18/2022 2:52:36PM**

## WORK ORDER

## T220754

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **81st Los Angeles** | **Project Number:** | **[none]** |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220754-08 SB6-50-6-5 [Soil] Sampled 03/18/22 09:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 09:25 | |
| **T220754-09 SB6-50-1-2 [Soil] Sampled 03/18/22 10:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 10:00 | |
| **T220754-10 SB6-50-2-2.5 [Soil] Sampled 03/18/22 10:10 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 10:10 | |
| **T220754-11 SB6-50-2-5 [Soil] Sampled 03/18/22 10:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 10:25 | |
| **T220754-12 SB6-50-8-2.5 [Soil] Sampled 03/18/22 10:35 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 10:35 | |
| **T220754-13 SB6-50-8-5 [Soil] Sampled 03/18/22 10:45 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 10:45 | |
| **T220754-14 SB6-50-7-2.5 [Soil] Sampled 03/18/22 11:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 11:00 | |
| **T220754-15 SB6-50-7-5 [Soil] Sampled 03/18/22 11:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 11:15 | |

**Analysis groups included in this work order**

*6010 Title 22*

| | |
|---|---|
| subgroup 6010B T22 | 7470/71 Hg |

Reviewed By

Date

**Printed: 3/22/2022 3:39:45PM**

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

## WORK ORDER

## T220754

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **81st Los Angeles** | **Project Number:** | **[none]** |

**Report To:**

Equipoise Corporation
Melissa Robinson
1311 Calle Batido, Suite 260
San Clemente, CA 92673

| | | | |
|---|---|---|---|
| Date Due: | 03/25/22 17:00 (5 day TAT) | | |
| Received By: | Jennifer Berger | Date Received: | 03/18/22 13:58 |
| Logged In By: | Jennifer Berger | Date Logged In: | 03/18/22 14:47 |

| | | | |
|---|---|---|---|
| Samples Received at: | **3.3°C** | | |
| Custody Seals | No | Received On Ice | Yes |
| Containers Intact | Yes | | |
| COC/Labels Agree | Yes | | |
| Preservation Confirme | No | | |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220754-01 SB6-SO-3-2.5 [Soil] Sampled 03/18/22 08:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:00 | |
| **T220754-02 SB6-SO-3-5 [Soil] Sampled 03/18/22 08:05 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:05 | |
| **T220754-03 SB6-SO-4-2.5 [Soil] Sampled 03/18/22 08:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:15 | |
| **T220754-04 SB6-SO-4-5 [Soil] Sampled 03/18/22 08:20 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:20 | |
| **T220754-05 SB6-SO-5-2.5 [Soil] Sampled 03/18/22 08:40 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:40 | |
| **T220754-06 SB6-SO-5-5 [Soil] Sampled 03/18/22 08:50 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:50 | |
| **T220754-07 SB6-SO-6-2.5 [Soil] Sampled 03/18/22 09:05 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 09:05 | |

**Printed: 3/22/2022 3:39:45PM**

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

## WORK ORDER

## T220754

**Client:** Equipoise Corporation
**Project:** 81st Los Angeles
**Project Manager:** Joann Marroquin
**Project Number:** [none]

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220754-08 SB6-SO-6-5 [Soil] Sampled 03/18/22 09:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 09:25 | |
| **T220754-09 SB6-SO-1-2 [Soil] Sampled 03/18/22 10:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 10:00 | |
| **T220754-10 SB6-SO-2-2.5 [Soil] Sampled 03/18/22 10:10 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 10:10 | |
| **T220754-11 SB6-SO-2-5 [Soil] Sampled 03/18/22 10:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 10:25 | |
| **T220754-12 SB6-SO-8-2.5 [Soil] Sampled 03/18/22 10:35 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 10:35 | |
| **T220754-13 SB6-SO-8-5 [Soil] Sampled 03/18/22 10:45 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 10:45 | |
| **T220754-14 SB6-SO-7-2.5 [Soil] Sampled 03/18/22 11:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 11:00 | |
| **T220754-15 SB6-SO-7-5 [Soil] Sampled 03/18/22 11:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 11:15 | |
| STLC Pb | 03/25/22 15:00 | 2 | 09/14/22 11:15 | |
| STLC Leaching Procedure Metals | 03/25/22 15:00 | 2 | 09/14/22 11:15 | |
| TCLP Leaching Procedure Metals | 03/25/22 15:00 | 2 | 09/14/22 11:15 | |
| TCLP Pb | 03/25/22 15:00 | 2 | 09/14/22 11:15 | |

**Analysis groups included in this work order**

*6010 Title 22*

| | |
|---|---|
| subgroup 6010B T22 | 7470/71 Hg |

Reviewed By

Date

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

25 March 2022

Melissa Robinson
Equipoise Corporation
1311 Calle Batido, Suite 260
San Clemente, CA 92673

RE: 81st Los Angeles

Enclosed are the results of analyses for samples received by the laboratory on 03/18/22 13:58. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Joann Marroquin

Joann Marroquin
Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/25/22 17:01 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| SB6-SO-7-5 | T220754-15 | Soil | 03/18/22 11:15 | 03/18/22 13:58 |

This report was revised to correct the "50" to "SO" in all sample ID's.

| | | | |
|---|---|---|---|
| Equipoise Corporation | Project: | 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: | [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: | Melissa Robinson | 03/25/22 17:01 |

## DETECTIONS SUMMARY

**Sample ID:** SB6-SO-7-5 **Laboratory ID:** T220754-15

**No Results Detected**

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/25/22 17:01 |

## SB6-SO-7-5

### T220754-15 (Soil)

**SunStar Laboratories, Inc.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **TCLP Metals by 6000/7000 Series Methods** | | | | | | | | | |
| Lead | ND | 0.10 | mg/l | 1 | 2032246 | 03/22/22 | 03/25/22 | EPA 1311 | |
| **STLC Metals by 6000/7000 Series Methods** | | | | | | | | | |
| Lead | ND | 0.50 | mg/l | 1 | 2032244 | 03/22/22 | 03/25/22 | STLC Waste Extraction Test | |

Joann Marroquin

Joann Marroquin, Director of Operations

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/25/22 17:01 |

## TCLP Metals by 6000/7000 Series Methods - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2032246 - TCLP Metals** | | | | | | | | | | |
| **Blank (2032246-BLK1)** | | | | Prepared: 03/22/22 Analyzed: 03/25/22 | | | | | | |
| Lead | ND | 0.10 | mg/l | | | | | | | |
| **LCS (2032246-BS1)** | | | | Prepared: 03/22/22 Analyzed: 03/25/22 | | | | | | |
| Lead | 0.482 | 0.10 | mg/l | 0.500 | | 96.3 | 75-125 | | | |
| **Matrix Spike (2032246-MS1)** | **Source: T220754-15** | | | Prepared: 03/22/22 Analyzed: 03/25/22 | | | | | | |
| Lead | 0.445 | 0.10 | mg/l | 0.500 | ND | 88.9 | 75-125 | | | |
| **Matrix Spike Dup (2032246-MSD1)** | **Source: T220754-15** | | | Prepared: 03/22/22 Analyzed: 03/25/22 | | | | | | |
| Lead | 0.436 | 0.10 | mg/l | 0.500 | ND | 87.2 | 75-125 | 1.98 | 30 | |

Joann Marroquin

| | | |
|---|---|---|
| Equipoise Corporation | Project: 81st Los Angeles | |
| 1311 Calle Batido, Suite 260 | Project Number: [none] | **Reported:** |
| San Clemente CA, 92673 | Project Manager: Melissa Robinson | 03/25/22 17:01 |

## STLC Metals by 6000/7000 Series Methods - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2032244 - STLC Metals** | | | | | | | | | | |
| **Blank (2032244-BLK1)** | | | | Prepared: 03/22/22 Analyzed: 03/25/22 | | | | | | |
| Lead | ND | 0.50 | mg/l | | | | | | | |
| **LCS (2032244-BS1)** | | | | Prepared: 03/22/22 Analyzed: 03/25/22 | | | | | | |
| Lead | 9.25 | 0.50 | mg/l | 10.0 | | 92.5 | 75-125 | | | |
| **Matrix Spike (2032244-MS1)** | **Source: T220754-15** | | | Prepared: 03/22/22 Analyzed: 03/25/22 | | | | | | |
| Lead | 8.80 | 0.50 | mg/l | 10.0 | 0.123 | 86.7 | 75-125 | | | |
| **Matrix Spike Dup (2032244-MSD1)** | **Source: T220754-15** | | | Prepared: 03/22/22 Analyzed: 03/25/22 | | | | | | |
| Lead | 8.84 | 0.50 | mg/l | 10.0 | 0.123 | 87.2 | 75-125 | 0.517 | 30 | |

## Notes and Definitions

| | |
|---|---|
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

# Chain of Custody Record

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Client: Equipoise corporation
Address: 1311 calle Batido 250/260, San clemente.
Phone: 
Fax:
Project Manager: Melissa Robinson
Date: 3/18/2022
Page: 1 Of 1
Project Name: 81st Los Angeles
Collector: Oscar Teller
Client Project #:
Batch #: T220754
EDF #:

| Sample ID | Date Sampled | Time | Sample Type | Container Type | 8260 | 8260 + OXY | 8260 BTEX, OXY only | 8270 | 8021 BTEX | 8015M (gasoline) | 8015M (diesel) | 8015M Ext./Carbon Chain | 6010/7000 Title 22 Metals | 6020 ICP-MS Metals | Title 22 metals 6010M | | | Laboratory ID # | Comments/Preservative | Total # of containers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB6-50-3-2.5 | 3/18/22 | 0800 | Soil | 8oz Jar | | | | | | | | | | | X | | | 1 | | |
| SB6-50-3-5 | | 0805 | | | | | | | | | | | | | X | | | 2 | | |
| SB6-50-4-2.5 | | 0815 | | | | | | | | | | | | | X | | | 3 | | |
| SB6-50-4-5 | | 0820 | | | | | | | | | | | | | X | | | 4 | | |
| SB6-50-5-2.5 | | 0840 | | | | | | | | | | | | | X | | | 5 | | |
| SB6-50-5-5 | | 0850 | | | | | | | | | | | | | X | | | 6 | | |
| SB6-50-6-2.5 | | 0905 | | | | | | | | | | | | | X | | | 7 | | |
| SB6-50-6-5 | | 0925 | | | | | | | | | | | | | X | | | 8 | | |
| SB6-50-1-2 | | 1000 | | | | | | | | | | | | | X | | | 9 | | |
| ~~SB6-50-1-5~~ | | | | | | | | | | | | | | | ~~X~~ | | | | | |
| SB6-50-2-2.5 | | 1010 | | | | | | | | | | | | | X | | | 10 | | |
| SB6-50-2-5 | | 1025 | | | | | | | | | | | | | X | | | 11 | | |
| SB6-50-8-2.5 | | 1035 | | | | | | | | | | | | | X | | | 12 | | |
| SB6-50-8-5 | | 1045 | | | | | | | | | | | | | X | | | 13 | | |
| SB6-50-7-2.5<br>SB6-50-7-5 | 3/18/22 | 1100<br>1115 | Soil | 8 oz Jar | | | | | | | | | | | X<br>X | | | 14<br>15 | | |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Date / Time | | |
|---|---|---|---|---|---|
| | 3-18-22 1217 | | 3-18-22 1217 | Total # of containers | |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Date / Time | Chain of Custody seals Y/[✓ N]/NA | |
| | 3-18-22 1358 | | 3-18-22 1358 | Seals intact? Y/N/[✓ NA] | |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Date / Time | Received good condition/cold | 3.3 °C |
| | | | | Turn around time: 48-hours | |

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

**SunStar Laboratories, Inc.**
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Rev. 02 Date 07/19
Receiving Form 001

# SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T220754

Client Name: Equipoise    Project: 81st Los Angeles

Delivered by: ☐ **Client** ☒ **SunStar Courier** ☐ **GLS** ☐ **FedEx** ☐ **UPS**

If Courier, Received by: Dave    Date/Time Courier Received: 3/18/22 12:17

Lab Received by: Jennifer    Date/Time Lab Received: 3/18/22 13:58

Total number of coolers received: 1    Thermometer ID: SC-1    Calibration due: 8/24/22

| | | | | |
|---|---|---|---|---|
| Temperature: | Cooler #1 | 3.2 | °C +/- the CF (+0.1 °C) = 3.3 | °C corrected temperature |
| Temperature: | Cooler #2 | | °C +/- the CF (+0.1 °C) = | °C corrected temperature |
| Temperature: | Cooler #3 | | °C +/- the CF (+0.1 °C) = | °C corrected temperature |

**Temperature criteria = ≤ 6°C (no frozen containers)**    Within criteria?    ☒ **Yes** ☐ **No** ☐ **N/A**

**If NO:**

Samples received on ice?    ☐ Yes    ☐ **No →** **Complete Non-Conformance Sheet**

If on ice, samples received same day collected?    ☐ Yes → Acceptable    ☐ **No →** **Complete Non-Conformance Sheet**

Custody seals intact on cooler/sample    ☐ Yes ☐ No* ☒ N/A

Sample containers intact    ☒ Yes ☐ No*

Sample labels match Chain of Custody IDs    ☒ Yes ☐ No*

Total number of containers received match COC    ☒ Yes ☐ No*

Proper containers received for analyses requested on COC    ☒ Yes ☐ No*

Proper preservative indicated on COC/containers for analyses requested    ☐ Yes ☐ No* ☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times    ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked    Cooler/Sample Review - Initials and date: JB 3/18/22

**Comments:**

Page 1 of 1

## Joann Marroquin

---

**From:** Melissa Robinson <melissa.robinson@equipoisecorp.com>
**Sent:** Tuesday, March 22, 2022 3:28 PM
**To:** Joann Marroquin
**Cc:** Oscar Teller; Cathy Hartman; Hazard Mark S. Cousineau - HAZARD MANAGEMENT CONSULTING (markc@hmcinc.biz); deniset@hmcinc.biz
**Subject:** Re: Final Report and Invoice for 81rst Los Angeles (T220754)
**Attachments:** T220754f 81rst Los Angeles.pdf; T220754 FINAL EXCEL 22 Mar 22 1447.xls; SSL22-0754.pdf

Hello Joann,

Please analyze sample SB6-SO-7-5 for STLC and TCLP lead on a 3 day TAT.

Thank you,

Melissa

Sent from my iPhone

> On Mar 22, 2022, at 3:02 PM, Joann Marroquin <joann@sunstarlabs.com> wrote:
>
> Please find attached the final report and invoice for:
>
> Project Name: **81rst Los Angeles**
> Project Number: **-**
>
> **Sample ID SB6-50-7-5 (T220754-15) had a Lead result of 130 mg/kg, which is over the STLC and TCLP threshold. Please let me know if you would like me to add those analyses and if so, the requested TAT.**
>
> Thank you for choosing SunStar! We appreciate your business!

**Joann Marroquin**
Director of Operations

SunStar
Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Dr., Lake Forest, CA 92630
Office: (949) 297-5020 | Mobile: (949) 459-3124
ELAP Accreditation: 2250 | CA Small Business Certification: 31511
ISO/IEC 17025 Accreditation: AT-2542

**Printed: 3/18/2022 2:52:36PM**

## WORK ORDER

## T220754

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **81st Los Angeles** | **Project Number:** | **[none]** |

**Report To:**

Equipoise Corporation
Melissa Robinson
1311 Calle Batido, Suite 260
San Clemente, CA 92673

| | | | |
|---|---|---|---|
| Date Due: | 03/22/22 17:00 (2 day TAT) | | |
| Received By: | Jennifer Berger | Date Received: | 03/18/22 13:58 |
| Logged In By: | Jennifer Berger | Date Logged In: | 03/18/22 14:47 |

| | | | |
|---|---|---|---|
| Samples Received at: | **3.3°C** | | |
| Custody Seals | No | Received On Ice | Yes |
| Containers Intact | Yes | | |
| COC/Labels Agree | Yes | | |
| Preservation Confirme | No | | |

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220754-01 SB6-50-3-2.5 [Soil] Sampled 03/18/22 08:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:00 | |
| **T220754-02 SB6-50-3-5 [Soil] Sampled 03/18/22 08:05 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:05 | |
| **T220754-03 SB6-50-4-2.5 [Soil] Sampled 03/18/22 08:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:15 | |
| **T220754-04 SB6-50-4-5 [Soil] Sampled 03/18/22 08:20 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:20 | |
| **T220754-05 SB6-50-5-2.5 [Soil] Sampled 03/18/22 08:40 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:40 | |
| **T220754-06 SB6-50-5-5 [Soil] Sampled 03/18/22 08:50 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 08:50 | |
| **T220754-07 SB6-50-6-2.5 [Soil] Sampled 03/18/22 09:05 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 09:05 | |

**Client:** **Equipoise Corporation**
**Project Manager:** **Joann Marroquin**
**Project:** **81st Los Angeles**
**Project Number:** **[none]**

| **Analysis** | **Due** | **TAT** | **Expires** | **Comments** |
|---|---|---|---|---|
| **T220754-08 SB6-50-6-5 [Soil] Sampled 03/18/22 09:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 09:25 | |
| **T220754-09 SB6-50-1-2 [Soil] Sampled 03/18/22 10:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 10:00 | |
| **T220754-10 SB6-50-2-2.5 [Soil] Sampled 03/18/22 10:10 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 10:10 | |
| **T220754-11 SB6-50-2-5 [Soil] Sampled 03/18/22 10:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 10:25 | |
| **T220754-12 SB6-50-8-2.5 [Soil] Sampled 03/18/22 10:35 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 10:35 | |
| **T220754-13 SB6-50-8-5 [Soil] Sampled 03/18/22 10:45 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 10:45 | |
| **T220754-14 SB6-50-7-2.5 [Soil] Sampled 03/18/22 11:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 11:00 | |
| **T220754-15 SB6-50-7-5 [Soil] Sampled 03/18/22 11:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 09/14/22 11:15 | |

**Analysis groups included in this work order**

*6010 Title 22*

| | |
|---|---|
| subgroup 6010B T22 | 7470/71 Hg |

Reviewed By

Date

**Printed: 3/22/2022 3:39:45PM**

## WORK ORDER

## T220754

| | | | |
|---|---|---|---|
| **Client:** | **Equipoise Corporation** | **Project Manager:** | **Joann Marroquin** |
| **Project:** | **81st Los Angeles** | **Project Number:** | **[none]** |

**Report To:**

Equipoise Corporation
Melissa Robinson
1311 Calle Batido, Suite 260
San Clemente, CA 92673

| | | | |
|---|---|---|---|
| Date Due: | [redacted] (5 day TAT) | | |
| Received By: | Jennifer Berger | Date Received: | 03/18/22 13:58 |
| Logged In By: | Jennifer Berger | Date Logged In: | 03/18/22 14:47 |

| | | | |
|---|---|---|---|
| Samples Received at: | **3.3°C** | | |
| Custody Seals | No | Received On Ice | Yes |
| Containers Intact | Yes | | |
| COC/Labels Agree | Yes | | |
| Preservation Confirme | No | | |

| **Analysis** | **Due** | **TAT** | **Expires** | **Comments** |
|---|---|---|---|---|
| **T220754-01 SB6-SO-3-2.5 [Soil] Sampled 03/18/22 08:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:00 | |
| **T220754-02 SB6-SO-3-5 [Soil] Sampled 03/18/22 08:05 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:05 | |
| **T220754-03 SB6-SO-4-2.5 [Soil] Sampled 03/18/22 08:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:15 | |
| **T220754-04 SB6-SO-4-5 [Soil] Sampled 03/18/22 08:20 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:20 | |
| **T220754-05 SB6-SO-5-2.5 [Soil] Sampled 03/18/22 08:40 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:40 | |
| **T220754-06 SB6-SO-5-5 [Soil] Sampled 03/18/22 08:50 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 08:50 | |
| **T220754-07 SB6-SO-6-2.5 [Soil] Sampled 03/18/22 09:05 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 09:05 | |

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**Printed: 3/22/2022 3:39:45PM**

## WORK ORDER

## T220754

**Client:** Equipoise Corporation
**Project:** 81st Los Angeles
**Project Manager:** Joann Marroquin
**Project Number:** [none]

| Analysis | Due | TAT | Expires | Comments |
|---|---|---|---|---|
| **T220754-08 SB6-SO-6-5 [Soil] Sampled 03/18/22 09:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 09:25 | |
| **T220754-09 SB6-SO-1-2 [Soil] Sampled 03/18/22 10:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 10:00 | |
| **T220754-10 SB6-SO-2-2.5 [Soil] Sampled 03/18/22 10:10 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 10:10 | |
| **T220754-11 SB6-SO-2-5 [Soil] Sampled 03/18/22 10:25 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 10:25 | |
| **T220754-12 SB6-SO-8-2.5 [Soil] Sampled 03/18/22 10:35 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 10:35 | |
| **T220754-13 SB6-SO-8-5 [Soil] Sampled 03/18/22 10:45 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 10:45 | |
| **T220754-14 SB6-SO-7-2.5 [Soil] Sampled 03/18/22 11:00 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 11:00 | |
| **[redacted] Soil] Sampled 03/18/22 11:15 (GMT-08:00) Pacific Time (US &** | | | | |
| 6010 Title 22 | 03/22/22 15:00 | 2 | 03/23/22 11:15 | |
| [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | [redacted] | |

**Analysis groups included in this work order**

*6010 Title 22*

subgroup 6010B T22 7470/71 Hg

Reviewed By

Date

# Soil Management Plan

# APPENDIX F-3

HMC
HAZARD MANAGEMENT CONSULTING

# SOIL MANAGEMENT PLAN

## 1628 E 81st Street
## Los Angeles, California

Prepared for:

**Los Angeles County Fire Department**
**Health Hazardous Materials Division**
**5825 Rickenbacker Rd**
**Commerce, CA 90040**

Prepared by:

**Hazard Management Consulting Inc.**
**211 West Avenida Cordoba**
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RICHARD W BLACKMER
No. 48823
Exp. 9/30/2022

**April 28, 2022**

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## ACRONYMS

| | |
|---|---|
| bgs | feet below ground surface |
| CalEPA | California Environmental Protection Agency |
| CCR | California Code of Regulations |
| CEQA | California Environmental Quality Act |
| COC | constituents of concern |
| DTSC | Department of Toxic Substances Control |
| EFC | Environmental Field Coordinator |
| EPM | Environmental Program Manger |
| ESA | Environmental Site Assessment |
| ESL | Environmental Screening Level |
| HASP | Health & Safety Plan |
| HERO | Human and Ecological Risk Office |
| HHRA | Human Health Risk Assessment |
| HMC | Hazard Management Consulting, Inc. |
| LACFD | Los Angeles County Fire Department |
| OSHA | Occupational Health and Safety Administration |
| OVA | Organic Vapor Analyzer |
| PCB | polychlorinated biphenyls |
| PCE | Tetrachloroethene |
| PID | Photoionization Detection |
| ppm | parts per million |
| RWQCB | Regional Water Quality Control Board |
| SMP | Soil Management Plan |
| STLC | Soluble Threshold Limit Concentration |
| TCLP | Toxicity Characteristic Leaching Procedure |
| TTLC | Total Threshold Limit Concentration |
| TPHo | Total Petroleum Hydrocarbons in the oil range |
| USA | Underground Service Alert |
| VOC | volatile organic compounds |
| WEECO | Western Environmental Engineers Company |
| XRF | Handheld x-ray fluorescence |

# 1.0 INTRODUCTION

Hazard Management Consulting, Inc. (HMC) is pleased to present this soil management plan (SMP) for the property located at 1628 E 81st Street in the City of Los Angeles, California (the Site; Plate 1). Early site investigation activities conducted by ENCON Technologies, Inc. documented in the *Further Phase II Environmental Site Assessment Subsurface Soil and Soil Vapor Investigation Report* (ENCON, 2018) were reviewed by the Los Angeles County Fire Department (LACFD) as part of a California Environmental Quality Act (CEQA) review and found to require additional characterization. In April 2022, HMC performed a supplemental Site investigation as summarized in the *Supplemental Site Investigation Report* (HMC, 2022). The following SMP has been prepared in response to the findings of these site characterization reports.

The SMP presents the procedures that will be used during Site grading to notify workers on the Site as to the presence of residual concentrations of constituents of concern (COCs) in soils. The SMP provides guidance regarding the health & safety procedures that will be implemented to protect both workers at the Site and nearby residents; the segregation, management and disposal of soil containing elevated known COCs on Site; as well as responding to unknowns that may be encountered during grading.

## 1.1 SITE DESCRIPTION

The Site is described as an approximate 44,790 square foot lot and is currently an asphalt paved parking lot. The Subject Site is in a mixed industrial and residential area in the City of Los Angeles, north of the 105 Interstate and west of the 110 Freeway (ENCON, 2018). The Site is bounded by East 82nd Street to the north, East 81st Street to the south and Maie Avenue to the east (Plate 1).

## 1.2 SITE HISTORY

Prior to 1952, the Site was occupied by a truck yard and truck repair facility located at 1628- 1638 E. 81st Street. From 1963 to 1972, the Site was comprised by seven (7) buildings most likely used for textile manufacturing and distribution (ENCON, 2018). From 1980 to the present, the Site has been operated as an asphalt paved parking lot for MJ Textile located at 8122 S. Maie Avenue. These former historical truck repair facility and textile manufacturing operations were involved with the use of hazardous materials and generating hazardous waste (ENCON, 2018).

## 1.3 ENVIRONMENTAL SETTING

The Site is in the Los Angeles Forebay Area, in the northern part of the Central Basin. Previous investigations noted that the Bellflower aquiclude extends into the southerly portion of the forebay area. The Bellflower aquiclude extends in this area and contains a high percentage of sand, and vertical percolation of water is apparently more rapid here than in other portions of the basin. Where the Bellflower aquiclude is missing within the forebay area, the aquifers are in direct hydraulic continuity with the surface (ENCON, 2018).

The Los Angeles Forebay Area is overlain by parts of the La Brea, Los Angeles, and Montebello Plains. The known water-bearing sediments extend to a depth of 1600 feet (1440 feet below sea level) and include recent alluvium, the Lakewood and San Pedro formations.

Recent alluvium in the Los Angeles Forebay Area is found on the Los Angeles Plain and in the Los Angeles Narrows. It attains a maximum thickness of 160 feet and includes the western arm of Gaspur aquifer and the parts of the semi-perched aquifer and Bellflower aquiclude lying west and south of the Los Angeles River. The regional groundwater flow is expected to follow the topographic gradient, which is towards the south. (ENCON, 2018).

# 2.0 PRIOR INVESTIGATIONS

## 2.1 ENCON, PHASE I ENVIRONMENTAL SITE ASSESSMENT (APRIL 2018)

In early 2018, ENCON reviewed historical Site documents and developed the findings and conclusions presented in the *Phase I Environmental Site Assessment* (ESA) Report dated on April 16, 2018 (ENCON, 2018). The Phase I recommended a Phase II subsurface soil investigation for the former truck repair facility located at 1628-1638 East 81st Street be conducted to evaluate if the Site had been adversely affected by the previous truck repair operations.

## 2.2 WEECO, LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT (JUNE 2018)

On June 11, 2018, Western Environmental Engineers Company (WEECO) conducted a shallow soil investigation targeting potential impacts associated with Total Petroleum Hydrocarbons in the oil range (TPHo) and volatile organic compounds (VOCs). All analytical results associated with the shallow soil samples were found to be below detection limits (ENCON, 2018).

## 2.3 ENCON, FURTHER PHASE II ENVIRONMENTAL SITE ASSESSMENT SUBSURFACE SOIL AND SOIL GAS INVESTIGATION (OCTOBER 2018)

Upon review, ENCON concluded that the WEECO *Phase II ESA Investigation* was limited to the 1628-1639 East 81st Street parcel and did not include the portion of the Site which was formerly operated as an industrial manufacturing facility. The Site owner, KLARE Holdings, intent to redevelop the Site as a charter school campus and the redevelopments plans are provided in Appendix A. Therefore, a more complete soil investigation was developed, including the assessment of soil gas to ascertain the presence or absence of vapor intrusion risks for a school setting.

The Site was investigated by ENCON in accordance with the expanded site investigation and associated soil and soil gas sampling and analysis plan as presented in the ENCON *Further Phase II Environmental Site Assessment Subsurface Soil and Soil Gas Investigation Report* (ENCON, 2018). COCs for this investigation included, TPHo, VOCs, polychlorinated biphenyls (PCBs), and inorganic metals. The Site investigation was completed employing the ASTM E1527-13 real estate due diligence guidelines and then (2018) current soil screening levels (SSLs) presented in the California Environmental Protection Agency (CalEPA) Regional Water Quality Control Board (RWQCB) Tier 1 Environmental Screening Levels (ESLs) and the RWQCB *Interim Site Assessment & Cleanup Guidelines,* dated May 1996 (RWQCB, 1996).

The ENCON Phase II investigation found no evidence of chemical affected soil or soil gas in concentrations exceeding the 2018 regulatory screening levels. In addition, the soil gas results indicated that the Site was not adversely impacted by TPHo, VOC and PCB chemicals at levels exceeding the 2018 screening levels and no vapor intrusion conditions were suspected to exist beneath the Site.

The metal compound soil data found in the tested areas were all within normal background ranges for Southern California, including arsenic levels, ranging from 5.28 milligrams per kilogram (mg/kg) to 7.71 mg/kg. These arsenic concentrations are above the Tier 1 ESL levels; however, the results are below the CalEPA Department of Toxic Substances Control's (DTSC) arsenic background concentration of 12 mg/kg for Southern California (DTSC, 2020a). This adjusted background concentration is based on a statistical study of sites throughout Southern California and this adjusted arsenic concentration is used as a screening level for anthropogenic and naturally occurring levels of arsenic in soil in Southern California.

It was the professional opinion of ENCON that the Site was suitable for the intended charter school use with no environmental limitations/restrictions and no further investigations was necessary at that time.

Since completion of the above investigation activities in 2018, regulatory guidance for RWQCB ESLs and vapor intrusion assessment have been modified and updated. These new guidance documents underlie the LACFD's request for additional characterization at the Site in 2022.

## 2.4 HMC, SUPPLEMENTAL SITE INVESTIGATION REPORT, APRIL 1, 2022

In response to LACFD's request for additional characterization, HMC prepared a Supplemental Site Investigation Workplan outlining a series of soil and soil vapor samples (Plate 2). The following results of this sampling were presented to the LACFD in the *Supplemental Site Investigation Report* dated on April 1, 2022.

### 2.4.1 Soil Results

Soil samples were collected at 10 locations and two depth intervals (2.5 and 10 feet below ground surface, [bgs]). Soil samples were analyzed for VOCs, TPH, and inorganic metals. Two VOCs, acetone and benzene, were detected in soil at concentrations well below their respective residential RWQCB ESLs (Table 1). TPH as diesel was detected in a single sample (SB-5-10) at a concentration below its residential RWQCB ESL (Table 2).

All inorganic metals were found to be below RWQCB ESLs except for a single lead detection at sample location SB-6-2.5 (Table 3). The reported lead concentration (1300 mg/kg) exceeded both residential and commercial RWQCB ESLs. The reported lead concentration at sample SB-6-2.5 exceeds the total threshold limit concentration (TTLC) for characterization as Resource Conservation and Recovery Act (RCRA) hazardous waste, thus not requiring toxicity characteristic leaching procedure (TCLP) analysis. To determine the solubility of the lead impacted soils and whether the materials would need to further be managed as California hazardous waste during future excavation activities, sample SB-6-2.5 was additionally analyzed for its Soluble Threshold Limit Concentration (STLC). The resultant STLC for the sample exceeded the California hazardous waste threshold. As an exceedance, it is recommended that the lead-impacted soil at SB-6-2.5 be excavated and removed from the Site prior to grading and managed as a State hazardous waste.

To further delineate potential lead-impacted soils around sample SB-6-2.5, eight additional step-out borings (Plate 2) were completed to determine the lateral extent of the lead exceedances. Step-out borings were installed at distances of 5- and 10-foot from the original boring and soil samples were collected at 2.5 and 5 feet bgs to be analyzed for Title 22 metals using United States Environmental Protection Agency (USEPA) Test Method 6010. One sample (SB6-SO-7-5) contained a detection of lead above its residential RWQCB ESL, but no soluble lead was detected when analyzed for STLC (Table 1). In accordance with the planned use of the Site, it is recommended that the soil at this location also be excavated and removed from the Site prior to grading, as non-hazardous waste. Complete soil analytical results can be obtained in Appendix C of the *Supplemental Site Investigation Report* (HMC, 2022).

### 2.4.2 Soil Vapor Results

Ten soil boring locations were built out with soil vapor probes installed at 5 and 15 feet bgs. Eighteen VOCs were detected in soil vapor from the 20 samples collected at the Site (Table 4). Sixteen of these compounds were below their associated residential and commercial screening levels. Two compounds, chloroform and tetrachloroethene (PCE), were detected at concentrations slightly above their associated residential screening levels.

Chloroform was detected in one of the 5-foot soil vapor probes (SV2-5) at a concentration of 0.0051 micrograms per liter (µg/L), which is slightly higher than the residential screening level of 0.0041 µg/L. The concentration was well below the commercial screening level of 0.018 µg/L. Chloroform was not detected in any of the other probes at the Site or the 15-foot probe at the SV-2 location. The source of the low-level chloroform detection is unknown, as no supporting source was found to be present in soils or underlying soil vapor.

PCE was detected in all soil vapor probes at the Site, but no 5-foot probes were shown to have exceedances of either residential or commercial industrial screening levels. Minor exceedances of the residential screening level of 0.015 µg/L were identified at five probes within the 15-foot deep probe sample set. These concentrations were slightly higher than the residential screening level and ranged from 0.017 to 0.026 µg/L. All concentrations were well below the commercial screening level of 0.067 µg/L. All of these locations were co-located with PCE concentrations in 5-foot probes below the residential screening levels. Complete soil vapor analytical results can be obtained from Appendix C of the *Supplemental Site Investigation Report* (HMC, 2022).

## 3.0 IMPACTS ON FUTURE REDEVELOPMENT

The following section discusses the potential issues that could arise during redevelopment including grading activities. The South Coast Air Quality Management District's (SCAQMD's) Rule 1166 requires that any "VOC contaminated soil," which is defined as containing > 50 parts per million (ppm) VOC measured with a field instrument during grading, be monitored with special handling requirements and off-site disposal. If the grading process were to result in VOC contaminated soil being found, that soil would require off-site disposal per SCAQMD requirements.

Based on the sampling conducted, there are only a limited number of known areas that will have to be managed with special handling prior to mass grading. The significance of soil and soil vapor will be determined during future grading activities via later sections of this SMP and any identified source of VOCs will be addressed in accordance with LACFD and SCAQMD requirements.

Given the history of textile manufacturing operations involved with the use of hazardous materials at the Site, the potential to encounter areas of unknown hazardous materials and sources in soil during grading activities is plausible. If soil is suspected to be potentially impacted (based on visual staining, odors, PID readings, or other observations) with unknown contaminants (e.g., metals or TPH), the area will be delineated, and construction activity will cease in this area until further sampling and analysis can be conducted. Furthermore, Federal and State hazardous waste regulations may impact the excavation process (i.e., grading) and emplacement of soils impacted by these materials exceeding predefined threshold criteria. In this case, the appropriate notifications will be made, and the soil will be handled according to the applicable Federal and State regulations at the time.

# 4.0 OBJECTIVE

The objective of this SMP is to document the procedures that will be used to guide the grading and redevelopment activities at the site to identify and properly manage:

- known soil impacts from the historical Site operations; and,
- potentially unknown impacted soil.

## 5.0 ENVIRONMENTAL CONSIDERATIONS

During grading activities, soil with known impacts as described above will be encountered as part of the grading activities for the Site redevelopment. In addition, there is always a chance of encountering a volume of previously unknown impacted soil. Based on the investigations to date, concentrations of PCE have been detected in all soil vapor probes at the Site, but no 5-foot probes were shown to have exceedances of either residential or commercial industrial screening levels. Chloroform was detected in one of the 5-foot soil vapor probes (SV2-5). Lastly, lead concentrations were detected at sample SB-6-2.5 which exceeded the total threshold limit value. This SMP proposes to remove all lead exceeding the DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note 3 commercial and industrial land use reuse criteria of 320 mg/kg (DTSC, 2020b). A summary of reuse criteria is presented in the table below for the target compounds identified for the Site.

**Common Contaminants and Reuse Criteria**

| Target COC | Reuse Criteria | Source |
|---|---|---|
| Chloroform | 1.4 mg/kg | USEPA RSLs |
| Lead | 320 mg/kg | DTSC HHRA Note 3 Commercial/Industrial Human Health |
| PCE | 2.7 mg/kg | DTSC HHRA Note 3 Commercial/Industrial Human Health |
| Soluble lead (STLC) | 5 mg/L | California Code of Regulations – Hazardous Waste |

Notes:

mg/kg – milligrams per kilogram
COC – constituent of concern
HHRA - Human Health Risk Assessment
TTLC - Total Threshold Limit Concentration
RSL- Regional Screening Level
mg/L – milligrams per liter
DTSC - Department of Toxic Substance Control (2020b)
STLC – Soluble Threshold Limit Concentration
USEPA- United States Environmental Protection Agency

Any known soils that exceed the reuse criteria above will be excavated and removed prior to the start of grading. There is also the potential to encounter unanticipated subsurface features or soil conditions during demolition and grading on the Site. Section 10 of this SMP provides a detailed discussion of soil management activities for both known and unknown conditions.

# 6.0 PROGRAM PARTICIPANTS

## 6.1 ENVIRONMENTAL CONSULTANT

HMC will act as the environmental consultant and provide field oversight and management services for the SMP. HMC personnel will include the following Environmental Program Manager (EPM) and Environmental Field Coordinator (EFC):

- EPM - Mark S. Cousineau, Hazard Management Consulting: (949) 361-3902 or (949) 689- 5165.
- EFC - To be Determined (TBD)

## 6.2 CONTRACTOR

The general contractor for the project will be designated prior to the start of future soil management activities.

## 6.3 OWNER'S PARCTICIPANTS

The Owner's Project Director will be designated prior to the start of future soil management activities.

# 7.0 INDIVIDUAL RESPONSIBILITIES

## 7.1 ENVIRONMENTAL CONSULTANT'S PROGRAM MANAGER

The EPM will perform for the following tasks:

- Monitor the work of the EFC;
- Communicate field activities to the Owner's Project Director;
- Communicate with the EFC to investigate unknown features and other unknown environmental conditions, if encountered;
- Evaluate results of all soil sampling conducted;
- After consultation with the EFC and the Owner's Project Director, characterize, delineate, and supervise the proper management of unknown features, and other
- unanticipated environmental conditions;
- Report sample results to LACFD for COCs that exceed the soil reuse criteria; and
- Prepare reports of field activities.

## 7.2 ENVIRONMENTAL FIELD COORDINATOR

The EFC will perform the following tasks:

- Monitor grading operations visually and with the appropriate monitoring equipment to assess potential unknowns in the field and respond to requests based on questions and findings from the contractor's representative;
- Provide oversight of the implementation of the SMP and Health & Safety Plan (HASP) including air monitoring;
- Collect soil samples and arrange for laboratory analyses if needed;
- Maintain records of soil sample locations;
- Report suspected unknown features and other unanticipated environmental conditions to the EPM. The EPM will initiate and approve all non-emergency contacts with to appropriate agencies; and
- Supervise activities related to investigating and remediating unknown features and other unanticipated environmental conditions.

## 7.3 CONTRACTORS FIELD COORDINATOR

The Contractor's Field Coordinator shall be responsible for the following asks:

- Coordinate with the EPM regarding identification and removal of impacted soil or other unknown structures found during grading.

## 8.0 ACTIVITIES BEFORE GRADING

The Owner’s Project Director and the EPM will provide the Contractor and Site workers with this SMP prior to implementation of any applicable field activities. A kickoff meeting will take place with all parties involved in the movement of soil to review the components of the plan. Furthermore, this SMP will be provided to LACFD.

## 9.0 HEALTH AND SAFETY

A HASP has been prepared that will govern the field work at the Site and has been included in Appendix B. All applicable federal, state, and local regulations and codes relating to health and safety will be adhered to by HMC and subcontractors used in the project. The HASP adheres to all sections of California Occupational Health and Safety Administration (Cal OSHA) regulations contained in Title 8 of the California Code of Regulations (8 CCR) as they apply to the planned field activities. Applicable requirements included but are not limited to the following:

- Injury and Illness Prevention Program (8 CCR 1509 and 8 CCR 3203)
- Hazardous Waste Operations and Emergency Response (8 CCR 5192)
- Hazard Communication (8 CCR 5194)
- Personal Protective Equipment (8 CCR Article 10)
- Respiratory Protective Equipment (8 CCR 5144)
- Control of Noise Exposure (8 CCR 5095-5100)
- Fire Prevention and Suppression Procedures (8 CCR 4848)
- Portable Fire Extinguishers (8 CCR 6151)
- Medical Services and First Aid (8 CCR 3400).

Prior to drilling activities, HMC will conduct a thorough site walk and mark out each sample location to evaluate access and possible impediments to field operations. Underground Service Alert (USA) will be notified to confirm possible underground utilities that might conflict with the proposed locations marked. Additionally, COVID-19 job safety analysis and corresponding safety procedures in accordance with current local and federal guidelines have been included to minimize potential worker exposures during the implementation of this Workplan.

# 10.0 SOIL MANAGEMENT ACTIVITIES

The activity taking place that is subject to this SMP is the over excavation and compaction of shallow soil for the development of the Site. Soil excavation and grading operations will be conducted in accordance with the following site-specific soil management protocols, which have been developed after considering the Site history and previous subsurface investigation. These protocols are intended to be followed during all grading activities and cover both known and, if encountered, unanticipated environmental conditions. The EFC will periodically inspect the work locations to assess potential unknowns and monitor general grading practices. The Contractor's Field Coordinator will notify the EFC in the event that any odorous or discolored soil is encountered. Procedures to be followed if odorous or discolored soil is encountered are presented in this section.

The EFC will be on the Site to assist in segregating impacted soil from non-impacted soil and assisting in the selection of potential disposal options.

## 10.1 KNOWN CONDITIONS

Section 5 of this SMP provides a discussion of known environmental conditions and soil reuse criteria. Plate 3 presents the location where soil will be excavated from the designated "impacted area" based on the results of previous sampling. Additional confirmation samples will be collected at the direction of the field coordinator.

The soil will be excavated to target depth described in the Site grading plans. Assuming a target over-excavation depth of 3 feet bgs, the estimated excavation footprint (Plate 3) indicates that less than 5 cubic yards of hazardous lead impacted soil is anticipated to be removed and disposed of offsite prior to future Site grading activities. Soil from known impacted areas will be segregated and stockpiled as described in Section 10.4 of this SMP.

Once the known impacted soil is excavated, confirmation soil samples will be collected as follows:

- One sample from each of the four sidewalls; and
- One bottom sample.

Once all confirmation samples are below the established reuse criteria, soil excavation will be ceased, stockpiled soils will be removed, and general grading activities will begin. The EFC will monitor the grading activity and implementation of the SMP. The EFC will be tasked with observing the soil during grading. Field screening instrumentation will be used in conjunction with the traditional visual observation of soils during the grading process, with the EFC collecting field measurements using both an organic vapor analyzer (OVA) and a handheld x-ray fluorescence (XRF).

## 10.2 AIR AND DUST MONITORING

Soil at the Site will require VOC monitoring in accordance with SCAQMD Rule 1166, VOC Emissions from Decontamination of Soil. Monitoring for the presence of VOC-impacted soil and implementing a VOC-impacted soil mitigation plan approved by the SCAQMD Executive Officer will be required if VOC-impacted soil is encountered during grading and excavation work. A copy of the plan must be on the Site during the entire excavation period, and the provisions for monitoring and reporting under the Rule 1166 permit/plan must be implemented. The following vapor or odor mitigation measures may be implemented if real-time air monitoring exceeds an action level or if odors are encountered that requires mitigation from a health and safety perspective:

- Cover subject soil with clean soil or plastic sheeting;
- Reduce the pace of work;
- Reduce size of area being excavated; and/or
- Apply vapor suppression.

Construction procedures or vapor/odor control measures may be altered based on observations of the effectiveness of such measures. Work must stop until such measures are improved, or additional or more effective measures are employed. Additional air monitoring may be conducted to confirm the effectiveness of emission reduction activities. Based on sampling conducted to date, a limited quantity of VOC contaminated soil is expected to be encountered. A Various Sites SAQMD Rule 1166 Permit will be used at the Site in the event VOC contaminated soil is encountered. This permit will allow for up to 2,000 yards to be excavated and managed. If additional quantities are encountered, a Site Specific SAQMD Rule 1166 Permit will be obtained.

Soil at the Site may also require dust monitoring in accordance with SCAQMD Rule 1466, Control of Particulate Emissions from Soils with Toxic Air Contaminants. Dust will be monitored at the excavation area, to ensure the safety of the workers, and at the perimeter of the Site, to ensure the safety of the public and to ensure that a public nuisance condition does not occur. Dust monitoring will be conducted using a MIE Personal Data RAM, or similar monitor.

Dust monitoring measurements will be recorded on a Dust Monitoring Form or logged on the meters. In areas subject to SCAQMD Rule 1466, dust monitoring will occur upwind and downwind of the excavation. If dust measurements or visual dust exceed SCAQMD requirements/ action levels, then work will stop, or dust suppression/mitigation will be applied until concentrations decline.

The Contractor shall be responsible for the mitigation of dust during construction activities. If elevated dust measurements or visible dust at the perimeter of the Site boundaries as a result of construction activities at the Site are observed, the Contractor shall enhance mitigation measures to eliminate the presence of visible dust at the Site boundary. Additional dust control measures that may be implemented, if necessary, include:

- Increased watering of the work area;
- Covering of stockpiles;
- Decreasing drop heights; and/or
- Use of dust palliatives.

The EFC will monitor Site conditions and evaluate what dust control measures (e.g., water application) will be implemented, as needed.

### 10.3 UNANTICIPATED ENVIRONMENTAL CONDITIONS

The EFC will monitor the grading activity and implementation of the SMP. The EFC will be tasked with observing the soil during grading, collecting field measurements with both OVA and handheld XRF, documenting soil source and destination locations, and collecting soil samples. The following process will be followed if unanticipated environmental conditions are encountered, including unusual odors, sustained elevated OVA readings (greater than 25 ppm), elevated XRF reading (greater than 5 times solubility limits), pH less than 2, unusual staining or discoloration, or other characteristics judged by the EFC to be not representative of previously assessed Site conditions.

1. The Contractor will discontinue work in the area immediately and notify the EFC. The suspect area will be delineated with caution tape to prevent unauthorized entry.
2. The EFC will notify the EPM who will communicate to LACFD and the county that unanticipated impacted soil has been encountered.
3. The Contractor shall not move potentially impacted soil, or other materials, such as debris, from the suspect area to other parts of the Site unless otherwise directed by the EFC.
4. The EFC will direct the excavation and stockpiling of the suspected impacted soils. Suspected materials will be removed to a depth of planned grading activities.
5. Stockpile samples will be collected from the suspected impacted soil. All stockpile samples and excavation activities will be thoroughly documented. Soil sampling methodologies are included in Appendix C.
6. Depending on the nature of the impact, the soil samples will be analyzed for some or all of the following: VOCs plus oxygenates using USEPA Test Method 8260B, TPH carbon chain analysis using USEPA Test Method 8015B(M), and Title 22 metals using USEPA Test Method 6010B/7471A.
7. Once the analytical results are obtained, the EPM will compare the results to the appropriate soil reuse criteria to assess whether further action is warranted and, if so, what action is appropriate under the circumstances, including further appropriate agency notifications.
8. Grading in any suspect area will not continue until any required remediation or removal is complete and only with the approval of the EFC or EPM.

### 10.4 SOIL STOCKPILING

Soil to be stockpiled from areas known to be impacted or soil that is potentially impacted based on field observations shall be segregated from other soils, placed on plastic sheeting and covered at the end of each workday. Stockpiled soil awaiting characterization shall be treated as impacted soil until results are obtained. Daily tarping/cover and dust control shall be provided. Storm water management practices shall be consistent with applicable rules and regulations, including those set forth by Los Angeles County (under its Los Angeles County Clean Water Program), the City of Los Angeles, and LACFD.

### 10.5 OFF-SITE DISPOSAL

Soil to be disposed of off the Site shall be characterized to determine if it is a hazardous waste in accordance with CCR, Title 22, and to respond to the requirements of the accepting disposal facility (e.g., hazardous, non-hazardous, or recycling). All soil will be handled and disposed of according to current regulatory guidelines; excess impacted soils will not be transported from the Site to an unrestricted use Site.

### 10.6 IMPORTED FILL MATERIAL

Imported fill material must meet the minimum requirements for soil sampling and analysis outlined in the DTSC's October 2001 *Information Advisory, Clean Imported Fill Material* to avoid the placement of chemically impacted soil on the Site.

The specific chemicals to be tested and the frequency of testing will be evaluated on a case-by-case basis determined by the EPM and other stakeholders. No imported soil may be used on the Site without the written consent of the EPM and other stakeholders. If a large quantity of import soil is required, the following sampling frequency will be used:

| | |
|---|---|
| • 0-1000 yards | 1 sample + 1/250 yards up to 1000 yards; |
| • 1,000-5,000 yards | 1 sample/1000 yards plus above; and, |
| • >5,000 yards | 1 sample/5000 yards, plus above. |

### 10.7 EQUIPMENT CLEANING

Track out of soil or other materials from the project Site is prohibited. Soil or other materials adhered to vehicles shall be removed via brushing or washing before exiting the Site.

If water is used for washing; it shall be collected and contained at the Site. Sampling may be needed prior to disposal in compliance with any sewer discharge permit(s). Sampling and compliance shall be the responsibility of the Contractor.

### 10.8 SOIL SAMPLING PROCEDURES

Soil samples may be collected using hand tools or a direct push drill rig. Soil sampling and sample handling procedures are presented in Appendix C.

### 10.9 NOTIFICATIONS

Notification should be made to the appropriate agency depending on the environmental issue encountered. Potential notification scenarios may include (1) notification to the LACFD, if an unknown underground structure (e.g., UST or sump) is encountered; (2) notification to the LACFD, should other environmental issues be identified. Notification to the appropriate agency shall be made by the owner in coordination with the EPM.

## 11.0 REPORTING

Upon completion of grading and any other soil sampling or management activities, a report outlining the work undertaken will be prepared and submitted to the Owner, the City of Los Angeles, the County of Los Angeles, and LACFD. The report will provide a summary of the work conducted, results of confirmation sampling and will contain copies of all daily field logs including all OVA monitoring results, laboratory results, and manifests used to dispose of soil.

## 12.0 REFERENCES

Department of Toxic Substance Control (DTSC), 2020a, Human and Ecological Risk Office Human Health Risk Assessment Note #11: Southern California Ambient Arsenic Screening Level, dated December 28.

Department of Toxic Substance Control (DTSC), 2020b, Human and Ecological Risk Office Human Health Risk Assessment Note #3: DTSC-modified Screening Levels (DTSC-SLs), dated June.

ENCON Technologies, Inc. (ENCON), 2018, Further Phase II Environmental Site Assessment Subsurface Soil and Soil Gas Investigation Report, Former Industrial Facility, 1628-1638 E 81st. Street, Los Angeles, California, dated October 5.

Hazard Management Consulting Inc. (HMC), 2022, Supplemental Site Investigation Report, 1628-1638 E 81st. Street, Los Angeles, California, dated April 1.

RWQCB Interim Site Assessment & Cleanup Guidebook, 1996, Preventing Groundwater Pollution: Assessing Your Site for Chemical Contaminants, dated May.

San Francisco Regional Water Quality Control Board (SFRWQCB), 2019, Environmental Screening Levels, dated January 24.

# *TABLES*

# Table 1
# Summary of Soil Analytical Results - Volatile Organic Compounds
# 1628 E 81st Street, Los Angeles, California

| Sample ID | Date Collected | USEPA Test Method 8260B Results in µg/kg Benzene | Acetone |
|---|---|---|---|
| SFRWQCB ESLs Soil Screening Level [1] (Residential) | | 330 | 61,000,000 |
| SFRWQCB ESLs Soil Screening Level [1] (Commercial/Industrial) | | 1,400 | 670,000,000 |
| SB-1-2.5 | 02/28/22 | ND<2.5 | ND<2.5 |
| SB-1-10 | 02/28/22 | **2.7** | **9.9** |
| SB-2-2.5 | 02/28/22 | ND<2.5 | **13** |
| SB-2-10 | 02/28/22 | **2.7** | **6.4** |
| SB-3-2.5 | 02/28/22 | ND<2.5 | ND<2.5 |
| SB-3-10 | 02/28/22 | ND<2.2 | **3.3** |
| SB-4-2.5 | 02/28/22 | **2.5** | **14** |
| SB-4-10 | 02/28/22 | **4.8** | **14** |
| SB-5-2.5 | 02/28/22 | **2.3** | **14** |
| SB-5-10 | 02/28/22 | ND<2.5 | **9.3** |
| SB-6-2.5 | 02/28/22 | **5.2** | **30** |
| SB-6-10 | 02/28/22 | ND<2.2 | **6.2** |
| SB-7-2.5 | 02/28/22 | **4.0** | **15** |
| SB-7-10 | 02/28/22 | **3.2** | **6.0** |
| SB-8-2.5 | 02/28/22 | ND<2.5 | **9.2** |
| SB-8-10 | 02/28/22 | ND<2.2 | **4.4** |
| SB-9-2.5 | 02/28/22 | ND<2.0 | **13** |
| SB-9-10 | 02/28/22 | **3.0** | **8.1** |
| SB-10-2.5 | 02/28/22 | ND<2.5 | **9.8** |
| SB-10-10 | 02/28/22 | **2.0** | **6.7** |

**Notes:**

This table is a summary of analytical results and only shows detected analytes. For a complete list of analytes, refer to the laboratory analytical report.

1. Screening Levels for Residential and Commercial/Industrial Soil from San Francisco Regional Water Quality Control Board (SFRWQCB) Summary of Soil Environmental Screening Levels (ESLs); January 2019

ND<2.5 = Not detected at or above the associated reporting limit

µg/kg = micrograms per kilogram

Detections shown in **BOLD**

USEPA = United States Environmental Protection Agency

# Table 2
# Summary of Soil Analytical Results - Total Petroleum Hydrocarbons
# 1628 E 81st Street, Los Angeles, California

| | | United States Environmental Protection Agency (USEPA) Test Method 8015B Results in milligrams per kilogram (mg/kg) | | |
|---|---|---|---|---|
| **Sample ID** | **Date Collected** | **TPH GRO (C6-C12)** | **TPH DRO (C13-C28)** | **TPH MO (C29-C44 )** |
| SFRWQCB ESLs Soil Screening Level (Residential) | | 430 | 260 | 12,000 |
| SFRWQCB ESLs Soil Screening Level (Commercial/Industrial) | | 2,000 | 1,200 | 180,000 |
| SB-1-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-1-10 | 02/28/22 | ND<0.25 | ND<10 D-06 | ND<10 |
| SB-2-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-2-10 | 02/28/22 | ND<0.21 | ND<10 D-06 | ND<10 |
| SB-3-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-3-10 | 02/28/22 | ND<0.22 | ND<10 D-06 | ND<10 D-06 |
| SB-4-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-4-10 | 02/28/22 | ND<0.22 | ND<10 D-06 | ND<10 |
| SB-5-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-5-10 | 02/28/22 | ND<0.19 | **15 D-06** | ND<10 D-06 |
| SB-6-2.5 | 02/28/22 | ND<0.22 | ND<10 | ND<10 |
| SB-6-10 | 02/28/22 | ND<0.25 | ND<10 D-06 | ND<10 |
| SB-7-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-7-10 | 02/28/22 | ND<0.20 | ND<10 D-06 | ND<10 |
| SB-8-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-8-10 | 02/28/22 | ND<0.21 | ND<10 D-06 | ND<10 |
| SB-9-2.5 | 02/28/22 | ND<0.21 | ND<10 | ND<10 |
| SB-9-10 | 02/28/22 | ND<0.25 | ND<10 D-06 | ND<10 |
| SB-10-2.5 | 02/28/22 | ND<0.25 | ND<10 | ND<10 |
| SB-10-10 | 02/28/22 | ND<0.25 | ND<10 D-06 | ND<10 D-06 |

**Notes:**

Screening Levels for Residential and Commercial/Industrial Soil from San Francisco Regional Water Quality Control Board (SFRWQCB) Summary of Soil Environmental Screening Levels (ESLs); January 2019

Detections shown in **BOLD**

ND<10 = Not detected at or above the associated reporting limit

D-06 = The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

TPH GRO = Total petroleum hydrocarbons quantified as gasoline

TPH DRO = Total petroleum hydrocarbons quantified as diesel

TPH MO = Total petroleum hydrocarbons quantified as motor oil

# Table 3
# Summary of Soil Analytical Results - Metals
# 1628 E 81st Street, Los Angeles, California

| | | United States Environmental Protection Agency (USEPA) Test Method 6010B | | | | | | | | | | | | | | | | | USEPA Test Method 7471A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Results in milligram per kilogram (mg/kg) | | | | | | | | | | | | | | | | | |
| **Sample ID** | **Date Collected** | **Antimony** | **Arsenic** | **Barium** | **Beryllium** | **Cadmium** | **Chromium** | **Cobalt** | **Copper** | **Lead** | **Lead STLC (mg/L)** | **Molybdenum** | **Nickel** | **Selenium** | **Silver** | **Thallium** | **Vanadium** | **Zinc** | **Mercury** |
| SFRWQCB ESLs Soil Screening Level (Residential) | | 11 | 0.067 | 15,000 | 1,600 | 910 | -- | 420 | 3,100 | 82 | _ | 390 | 15,000 | 390 | 390 | 0.78 | 390 | 23,000 | 13 |
| SFRWQCB ESLs Soil Screening Level (Commercial/Industrial) | | 160 | 0.31 | 220,000 | 6,900 | 4,000 | -- | 1,900 | 47,000 | 380 | _ | 5,800 | 64,000 | 5,800 | 5,800 | 12 | 5,800 | 350,000 | 190 |
| Recommended STLC & TCLP analysis for Metals | | **150** | **50** | **1,000** | **7.5** | **10** | **50** | **800** | **250** | **50** | **5** | **3,500** | **200** | **10** | **50** | **70** | **240** | **2,500** | **2.0** |
| SB-1-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **80** | ND<1.0 | ND<2.0 | **9.7** | **7.8** | **10** | ND<3.0 | - | ND<5.0 | **6.9** | ND<5.0 | ND<2.0 | ND<5.0 | **27** | **37** | ND<0.10 |
| SB-1-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **100** | ND<1.0 | ND<2.0 | **13** | **8.9** | **14** | ND<3.0 | - | ND<5.0 | **9.0** | ND<5.0 | ND<2.0 | ND<5.0 | **33** | **45** | ND<0.10 |
| SB-2-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **74** | ND<1.0 | ND<2.0 | **9.4** | **7.2** | **10** | ND<3.0 | - | ND<5.0 | **6.6** | ND<5.0 | ND<2.0 | ND<5.0 | **26** | **37** | ND<0.10 |
| SB-2-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **120** | ND<1.0 | ND<2.0 | **13** | **9.0** | **14** | ND<3.0 | - | ND<5.0 | **9.5** | ND<5.0 | ND<2.0 | ND<5.0 | **35** | **45** | ND<0.10 |
| SB-3-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **48** | ND<1.0 | ND<2.0 | **6.2** | **5.3** | **4.8** | ND<3.0 | - | ND<5.0 | **4.1** | ND<5.0 | ND<2.0 | ND<5.0 | **21** | **25** | ND<0.10 |
| SB-3-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **83** | ND<1.0 | ND<2.0 | **10** | **7.7** | **9.5** | ND<3.0 | - | ND<5.0 | **6.9** | ND<5.0 | ND<2.0 | ND<5.0 | **28** | **38** | ND<0.10 |
| SB-4-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **93** | ND<1.0 | ND<2.0 | **13** | **9.3** | **13** | ND<3.0 | - | ND<5.0 | **8.8** | ND<5.0 | ND<2.0 | ND<5.0 | **33** | **46** | ND<0.10 |
| SB-4-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **110** | ND<1.0 | ND<2.0 | **13** | **9.5** | **15** | ND<3.0 | - | ND<5.0 | **9.6** | ND<5.0 | ND<2.0 | ND<5.0 | **34** | **48** | ND<0.10 |
| SB-5-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **74** | ND<1.0 | ND<2.0 | **9.0** | **6.8** | **9.4** | ND<3.0 | - | ND<5.0 | **6.4** | ND<5.0 | ND<2.0 | ND<5.0 | **26** | **34** | ND<0.10 |
| SB-5-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **110** | ND<1.0 | ND<2.0 | **12** | **8.3** | **14** | ND<3.0 | - | ND<5.0 | **8.6** | ND<5.0 | ND<2.0 | ND<5.0 | **32** | **41** | ND<0.10 |
| SB-6-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **63** | ND<1.0 | ND<2.0 | **8.0** | **9.5** | **45** | **1300** | **85** | ND<5.0 | **11** | ND<5.0 | ND<2.0 | ND<5.0 | **21** | **48** | ND<0.10 |
| SB-6-5 | 2/28/2022 | ND<3.0 | ND<5.0 | **74** | ND<1.0 | ND<2.0 | **8.9** | **6.8** | **9.8** | ND<3.0 | - | ND<5.0 | **6.8** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **31** | ND<0.10 |
| SB-6-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **92** | ND<1.0 | ND<2.0 | **11** | **8.4** | **13** | ND<3.0 | - | ND<5.0 | **8.3** | ND<5.0 | ND<2.0 | ND<5.0 | **30** | **40** | ND<0.10 |
| SB-7-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **91** | ND<1.0 | ND<2.0 | **11** | **8.6** | **13** | ND<3.0 | - | ND<5.0 | **7.8** | ND<5.0 | ND<2.0 | ND<5.0 | **30** | **42** | ND<0.10 |
| SB-7-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **120** | ND<1.0 | ND<2.0 | **14** | **11** | **17** | ND<3.0 | - | ND<5.0 | **11** | ND<5.0 | ND<2.0 | ND<5.0 | **40** | **46** | ND<0.10 |
| SB-8-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **54** | ND<1.0 | ND<2.0 | **7.2** | **5.6** | **7.3** | ND<3.0 | - | ND<5.0 | **5.0** | ND<5.0 | ND<2.0 | ND<5.0 | **22** | **27** | ND<0.10 |
| SB-8-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **110** | ND<1.0 | ND<2.0 | **11** | **9.1** | **12** | ND<3.0 | - | ND<5.0 | **8.0** | ND<5.0 | ND<2.0 | ND<5.0 | **31** | **38** | ND<0.10 |
| SB-9-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **84** | ND<1.0 | ND<2.0 | **11** | **8.2** | **13** | **3.8** | **-** | ND<5.0 | **8.0** | ND<5.0 | ND<2.0 | ND<5.0 | **30** | **41** | ND<0.10 |
| SB-9-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **91** | ND<1.0 | ND<2.0 | **11** | **7.8** | **13** | ND<3.0 | - | ND<5.0 | **7.5** | ND<5.0 | ND<2.0 | ND<5.0 | **29** | **37** | ND<0.10 |
| SB-10-2.5 | 2/28/2022 | ND<3.0 | ND<5.0 | **75** | ND<1.0 | ND<2.0 | **9.2** | **7.2** | **8.5** | ND<3.0 | - | ND<5.0 | **6.2** | ND<5.0 | ND<2.0 | ND<5.0 | **26** | **35** | **0.13** |
| SB-10-10 | 2/28/2022 | ND<3.0 | ND<5.0 | **91** | ND<1.0 | ND<2.0 | **15** | **11** | **20** | **4.0** | **-** | ND<5.0 | **12** | ND<5.0 | ND<2.0 | ND<5.0 | **38** | **48** | ND<0.10 |
| **Step Out Soil Samples** | | | | | | | | | | | | | | | | | | | |
| SB6-SO-1-2 | 03/18/22 | ND<3.0 | ND<5.0 | **78** | ND<1.0 | ND<2.0 | **9.1** | **6.6** | **11** | **7.9** | - | ND<5.0 | **6.6** | ND<5.0 | ND<2.0 | ND<5.0 | **22** | **42** | **0.14** |
| SB6-SO-2-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **87** | ND<1.0 | ND<2.0 | **9.9** | **7.4** | **13** | **3.1** | - | ND<5.0 | **7.2** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **39** | ND<0.10 |
| SB6-SO-2-5 | 03/18/22 | ND<3.0 | ND<5.0 | **75** | ND<1.0 | ND<2.0 | **8.8** | **6.3** | **9.9** | ND<3.0 | - | ND<5.0 | **6.9** | ND<5.0 | ND<2.0 | ND<5.0 | **22** | **32** | ND<0.10 |
| SB6-SO-3-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **76** | ND<1.0 | ND<2.0 | **9.8** | **7.2** | **10** | ND<3.0 | - | ND<5.0 | **7.1** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **36** | ND<0.10 |
| SB6-SO-3-5 | 03/18/22 | ND<3.0 | ND<5.0 | **70** | ND<1.0 | ND<2.0 | **8.9** | **6.1** | **9.6** | **6.0** | - | ND<5.0 | **6.5** | ND<5.0 | ND<2.0 | ND<5.0 | **21** | **33** | ND<0.10 |
| SB6-SO-4-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **75** | ND<1.0 | ND<2.0 | **9.9** | **7.1** | **11** | **3.2** | - | ND<5.0 | **7.0** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **35** | ND<0.10 |
| SB6-SO-4-5 | 03/18/22 | ND<3.0 | ND<5.0 | **80** | ND<1.0 | ND<2.0 | **9.3** | **7.4** | **11** | ND<3.0 | - | ND<5.0 | **7.6** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **36** | ND<0.10 |
| SB6-SO-5-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **90** | ND<1.0 | ND<2.0 | **12** | **8.7** | **15** | **5.4** | - | ND<5.0 | **9.1** | ND<5.0 | ND<2.0 | ND<5.0 | **30** | **44** | ND<0.10 |
| SB6-SO-5-5 | 03/18/22 | ND<3.0 | ND<5.0 | **83** | ND<1.0 | ND<2.0 | **9.1** | **6.7** | **11** | **3.6** | - | ND<5.0 | **7.9** | ND<5.0 | ND<2.0 | ND<5.0 | **23** | **34** | ND<0.10 |
| SB6-SO-6-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **82** | ND<1.0 | ND<2.0 | **11** | **7.3** | **13** | **6.9** | - | ND<5.0 | **7.9** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **43** | ND<0.10 |
| SB6-SO-6-5 | 03/18/22 | ND<3.0 | ND<5.0 | **82** | ND<1.0 | ND<2.0 | **9.5** | **6.6** | **11** | ND<3.0 | - | ND<5.0 | **8.3** | ND<5.0 | ND<2.0 | ND<5.0 | **25** | **34** | ND<0.10 |
| SB6-SO-7-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **78** | ND<1.0 | ND<2.0 | **10** | **7.3** | **12** | **7.8** | - | ND<5.0 | **7.6** | ND<5.0 | ND<2.0 | ND<5.0 | **24** | **40** | ND<0.10 |
| SB6-SO-7-5 | 03/18/22 | ND<3.0 | ND<5.0 | **71** | ND<1.0 | ND<2.0 | **9.4** | **5.8** | **14** | **130** | ND<0.50 | ND<5.0 | **7.5** | ND<5.0 | ND<2.0 | ND<5.0 | **21** | **41** | ND<0.10 |
| SB6-SO-8-2.5 | 03/18/22 | ND<3.0 | ND<5.0 | **73** | ND<1.0 | ND<2.0 | **9.1** | **7.0** | **11** | ND<3.0 | - | ND<5.0 | **6.6** | ND<5.0 | ND<2.0 | ND<5.0 | **24** | **35** | ND<0.10 |
| SB6-SO-8-5 | 03/18/22 | ND<3.0 | ND<5.0 | **98** | ND<1.0 | ND<2.0 | **9.4** | **6.8** | **12** | ND<3.0 | - | ND<5.0 | **7.6** | ND<5.0 | ND<2.0 | ND<5.0 | **24** | **34** | ND<0.10 |

**Notes:**

Screening Levels for Residential and Commercial/Industrial Soil from San Francisco Regional Water Quality Control Board (SFRWQCB) Summary of Soil Environmental Screening Levels (ESLs); January 2019
Concentration ten times the Soluble Threshold Limit Concentration (STLC) screening value. This is typically considered a trigger number at which STLC and toxicity characteristic leaching procedure (TCLP) analyses should be run on the sample to determine solubility.
Concentrations that exceed TTLC values do not require TCLP analysis; materials are considered Federal hazardous waste.
-- = screening level not available
ND<1.0 = Not detected at or above the associated reporting limit
Detections shown in **BOLD**

| | |
|---|---|
| 🟧 | Detection value exceeds screening level |
| 🟨 | Detection exceeds one or more hazardous waste characteristic criteria |
| ▭ | Detection value exceeds STLC & TCLP analysis trigger for metals |

# Table 4
# Summary of Soil Vapor Analytical Results - Volatile Organic Compounds
# 3344 Medford Street, Los Angeles

| | | **United States Environmental Protection Agency (USEPA) Test Method 8260 B** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Results in micrograms per Liter (µg/L)** | | | | | | | | | | | | | | | | | |
| **Sample ID** | **Date Collected** | **1,1-Difluoroethane** | **1,2,4-Trimethylbenzene** | **1,3,5-Trimethylbenzene** | **2-Butanone** | **4-Ethyltoluene** | **4-Methyl-2-pentanone** | **Acetone** | **Benzene** | **Chloroethane** | **Chloroform** | **Chloromethane** | **Ethylbenzene** | **Isopropanol** | **m,p-Xylene** | **o-Xylene** | **Tetrachloroethene** | **Toluene** | **Xylenes, Total** |
| SFRWQCB ESLs [1] (Residential) | | -- | -- | -- | -- | -- | -- | 1,100 | 0.0032 | 350 | 0.0041 | 3.1 | 0.037 | -- | -- | -- | 0.015 | 10 | 3.5 |
| SFRWQCB ESLs [1](Commercial/Industrial) | | -- | -- | -- | -- | -- | -- | 4,500 | 0.014 | 1500 | 0.018 | 13 | 0.16 | -- | -- | -- | 0.067 | 4.4 | 15 |
| USEPA RSLs [2](Residential) | | 1,400 | 2.1 | 2.1 | 170 | -- | 100 | -- | -- | -- | -- | -- | -- | 7.0 | 3.3 | 3.3 | -- | -- | -- |
| USEPA RSLs [2](Composite Worker) | | 6,000 | 8.7 | 8.7 | 730 | -- | 430 | -- | -- | -- | -- | -- | -- | 29 | 15 | 15 | -- | -- | -- |
| SV1-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.030** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | **0.016** | ND<0.0087 | ND<0.0022 | **0.0037** | **0.0048** | ND<0.011 |
| SV1-15 | 03/01/22 | **0.0098** | ND<0.0074 | ND<0.0025 | **0.0054** | ND<0.0025 | ND<0.0061 | **0.023** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.0065** | **0.0035** | ND<0.011 |
| SV2-5 | 03/01/22 | **0.0054** | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.027** | ND<0.0016 | ND<0.0013 | **0.0051** | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | **0.0030** | **0.0049** | **0.059** | ND<0.011 |
| SV2-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0045** | ND<0.0025 | ND<0.0061 | **0.024** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | **0.0028** | **0.0089** | **0.081** | ND<0.011 |
| SV3-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0056** | ND<0.0025 | ND<0.0061 | **0.038** | **0.0022** | ND<0.0013 | ND<0.0024 | ND<0.0010 | **0.0022** | ND<0.012 | ND<0.0087 | **0.0028** | **0.0083** | **0.10** | ND<0.011 |
| SV3-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.033** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.0038** | ND<0.0019 | ND<0.011 |
| SV3-15 (DUP-2) | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0060** | ND<0.0025 | ND<0.0061 | **0.032** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.0069** | **0.0019** | ND<0.011 |
| SV4-5 | 03/01/22 | ND<0.0054 | **0.020** | **0.0088** | **0.0052** | **0.0057** | ND<0.0061 | **0.038** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | **0.0039** | ND<0.012 | **0.020** | **0.0083** | **0.0057** | **0.0087** | **0.028** |
| SV4-15 | 03/01/22 | ND<0.0054 | **0.034** | **0.014** | **0.0076** | **0.0075** | ND<0.0061 | **0.037** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | **0.0042** | ND<0.012 | **0.022** | **0.011** | **0.011** | **0.0094** | **0.033** |
| SV5-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.033** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.0034** | **0.0039** | ND<0.011 |
| SV5-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0060** | ND<0.0025 | **0.030** | **0.029** | ND<0.0016 | **0.013** | ND<0.0024 | **0.0030** | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.011** | **0.0031** | ND<0.011 |
| SV6-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.017** | ND<0.0025 | **0.0069** | **0.051** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | **0.0073** | ND<0.012 | **0.031** | **0.0091** | **0.0086** | **0.010** | **0.040** |
| SV6-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0075** | ND<0.0025 | ND<0.0061 | **0.039** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.017** | **0.0040** | ND<0.011 |
| SV7-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0044** | ND<0.0025 | ND<0.0061 | **0.027** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.011** | **0.0050** | ND<0.011 |
| SV7-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0077** | ND<0.0025 | ND<0.0061 | **0.037** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.019** | **0.0096** | ND<0.011 |
| SV8-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0046** | ND<0.0025 | ND<0.0061 | **0.033** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.011** | **0.0046** | ND<0.011 |
| SV8-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0066** | ND<0.0025 | ND<0.0061 | **0.036** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.018** | **0.0056** | ND<0.011 |
| SV9-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | ND<0.0048 | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | ND<0.0034 | ND<0.0019 | ND<0.011 |
| SV9-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0058** | ND<0.0025 | ND<0.0061 | **0.052** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.024** | **0.012** | ND<0.011 |
| SV10-5 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.026** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | **0.0026** | **0.015** | **0.0043** | ND<0.011 |
| SV10-5 (DUP-1) | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | ND<0.0044 | ND<0.0025 | ND<0.0061 | **0.027** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | **0.0022** | **0.013** | **0.0041** | ND<0.011 |
| SV10-15 | 03/01/22 | ND<0.0054 | ND<0.0074 | ND<0.0025 | **0.0070** | ND<0.0025 | ND<0.0061 | **0.031** | ND<0.0016 | ND<0.0013 | ND<0.0024 | ND<0.0010 | ND<0.0022 | ND<0.012 | ND<0.0087 | ND<0.0022 | **0.026** | **0.0059** | ND<0.011 |

**Notes:**

This table is a summary of analytical results and only shows detected analytes. For a complete list of analytes, refer to the laboratory analytical results.

1. Screening Levels for Residential and Commercial/Industrial Subslab/Soil Gas Vapor Intrusion Human Health Risk Levels from San Francisco Regional Water Quality Control Board (SFRWQCB) Summary of Soil Environmental Screening Levels (ESLs); January 2019

2. Screening Levels for Composite Worker Soil from United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs); November 2021. The Ambient Air values were converted to soil vapor screening values by applying a 0.03 attenuation rate.

ND< = Not detected at or above the associated reporting limit

Results in micrograms per Liter (µg/L)

Detections shown in **BOLD**

me = LCS Recovery is within Marginal Exdeedance (ME) control limit range (± 4 SD from the mean).

S1+ = Surrogate recovery exceeds control limits, high biased.

🟧 Detection value exceeds residential screening value

# *PLATES*

**HMC**
HAZARD MANAGEMENT CONSULTING

DRAWN BY: CM

CHECKED BY: CS

FILE NAME:
FIGURE 1-SITE LAYOUT.MXD

DATE:
FEBRUARY 2022

## SITE LAYOUT

1628 EAST 81ST ST.
LOS ANGELES, CA, 90001

PLATE
1

HMC
HAZARD MANAGEMENT CONSULTING

DRAWN BY: KF

CHECKED BY: CS

DATE: MARCH 2022

FILE NAME:
FIGURE 2-PROPOSED SAMPLING LOCATIONS.MXD

## SOIL AND SOIL VAPOR SAMPLING LOCATIONS

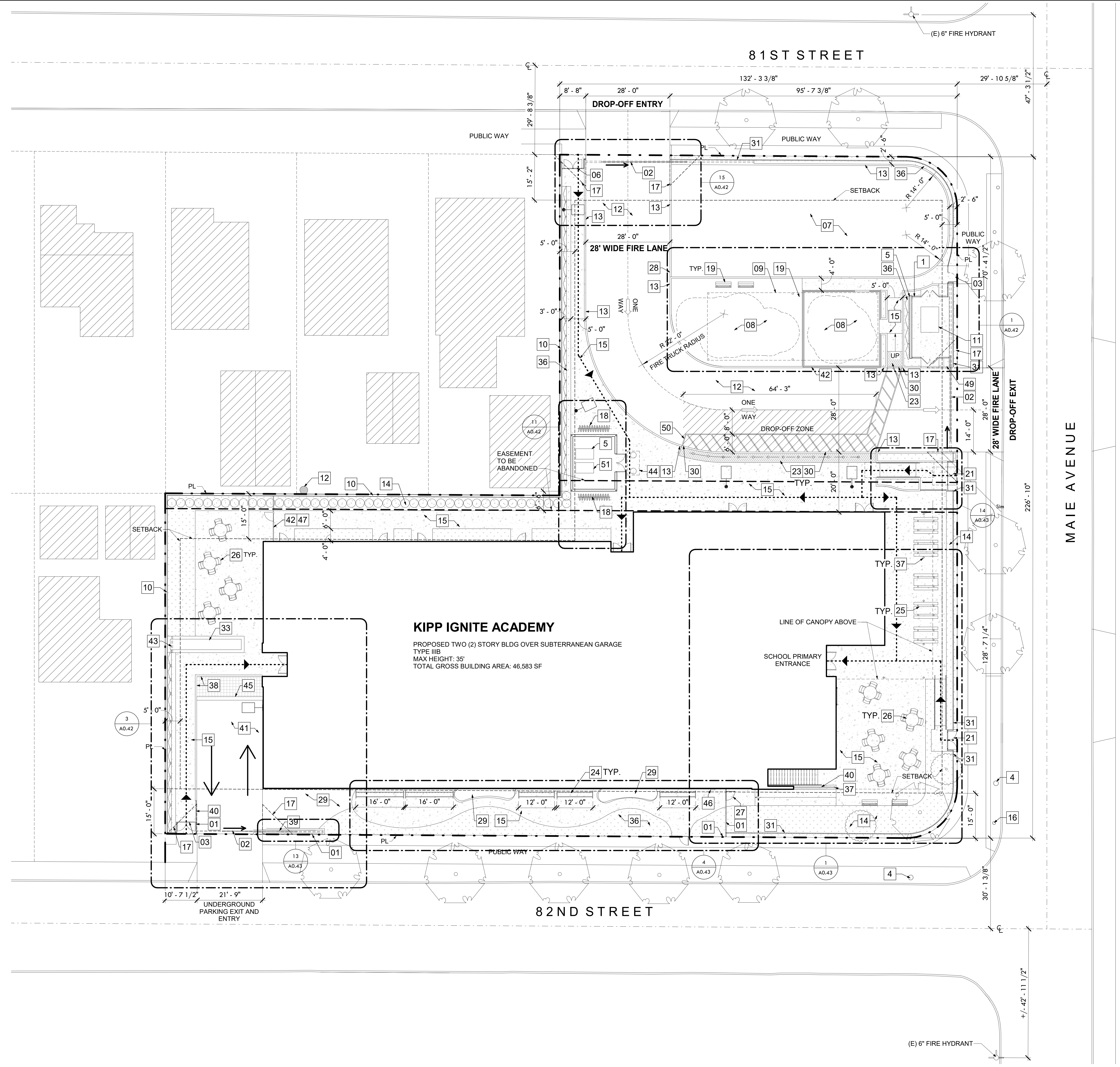
1628 EAST 81ST ST.
LOS ANGELES, CA, 90001

PLATE: 2

NOTE
SOIL BORINGS WILL BE COMPLETED TO 10 FEET BELOW GROUND SURFACE.

| | | | |
|---|---|---|---|
| HMC<br>HAZARD MANAGEMENT CONSULTING | DRAWN BY: KF | PROPOSED SOIL EXCAVATION LOCATION | PLATE: |
| | CHECKED BY: CS | | 3 |
| FILE NAME:<br>FIGURE 2-PROPOSED EXCAVATION.MXD | DATE: APRIL 2022 | 1628 EAST 81ST ST.<br>LOS ANGELES, CA, 90001 | |

# *APPENDIX A*



SITE
SCALE: 1/16" = 1'-0"
1

| | |
|---|---|
| 01 | 8'H WROUGHT IRON FENCE |
| 02 | 8'H MOTORIZED AUTOMATIC VEHICULAR GATE, W/ KNOX BOX |
| 03 | 8' H WROUGHT IRON PEDESTRIAN GATE, WITH PANIC HARDWARE |
| 04 | (E) LIGHT POLE |
| 05 | 8'H CMU TRASH ENCLOSURE, SPLIT FACE ONE SIDED W/CAP |
| 06 | 8'H WROUGHT IRON PEDESTRIAN GATE WITH PANIC HARDWARE, AI PHONE, INTERCOM |
| 07 | SYNTHETIC TURF SEE LANDSCAPE DWGS |
| 08 | PLAY EQUIPMENT AREA, SEE LANDSCAPE DWGS |
| 09 | SHADE SAIL SEE LANDSCAPE DWGS |
| 10 | 8'H CMU WALL; SPLIT FACE BOTH SIDES WITH CAP |
| 11 | 6' X 8'-6" TRANSFORMER PAD PER SCE REQUIREMENTS |
| 12 | (E) POWER POLE |
| 13 | 6" CONCRETE CURB |
| 14 | LANDSCAPING. SEE LANDSCAPE DWGS |
| 15 | CONCRETE PAVEMENT WALKWAY |
| 16 | (E) TRAFFIC LIGHT |
| 17 | 10'X10' LINE OF SIGHT TRIANGLES |
| 18 | SHORT TERM SPIRAL BIKE RACK, BRSP-20, BY CANTERBURY DESIGN (HOLDS 20 BIKES EACH) |
| 19 | BENCH, SEE LANDSCAPE |
| 20 | 8' H WROUGHT IRON PEDESTRIAN GATE WITH PANIC HARDWARE, LOCKSET ONLY |
| 21 | DOOR TO RECEIVE ACCESS CARD READER, PANIC HARDWARE & BUZZER WITH KNOX BOX |
| 22 | BENCH SEATING, SEE LANDSCAPE DWG |
| 23 | TRUNCATED DOMES, SEE CIVIL DWG |
| 24 | BELSON GRID BIKE RACKS SINGLE SIDED WITH COUPLERS (NUMBER OF BIKES = WIDTH) |
| 25 | PICNIC TABLES, SEE LANDSCAPE DWGS |
| 26 | PATIO TABLES WITH SHADE UMBRELLAS, SEE LANDSCAPE DWGS |
| 27 | 8'H WROUGHT IRON PEDESTRIAN GATE WITH LOCKSET ONLY |
| 28 | 6" CONCRETE CURB |
| 29 | DECOMPOSED GRANITE, SEE LANDSCAPE DWGS |
| 30 | ZERO CURB DROP OFF AREA |
| 31 | 8' H WROUGHT IRON FENCE WITH PERFORATED METAL PANEL |
| 32 | TRUNCATED DOMES W/CURB CUT, SEE CIVIL DWG |
| 33 | 18" H CONCRETE POLLINATOR GARDEN, SEE LANDSCAPE DWGS |
| 34 | PORTABLE BASKETBALL RIM |
| 35 | EQUIPMENT STORAGE |
| 36 | VINES, SEE LANDSCAPE DWGS |
| 37 | STEEL COLUMNS PER STRUCT., WITH INTUMESCENT PAINT |
| 38 | 42"H CONCRETE WALL GUARDRAIL |
| 39 | CONCRETE PAVEMENT WITH GATE TRACK |
| 40 | 42"H PAINTED STEEL GUARDRAIL |
| 41 | VEHICULAR RAMP TO UNDERGROUND PARKING GARAGE |
| 42 | 42"H WROUGHT IRON PEDESTRIAN FENCE |
| 43 | PERFORATED PIPE WITH WEEP HOLE TO THE LANDSCAPE TO THE SOUTH |
| 44 | OIL INTERCEPTOR PER CIVIL |
| 45 | OVERHEAD ROLL DOWN DOOR AND STEEL SUPPORTS |
| 46 | IRRIGATION CONTROLS PER LANDSCAPE |
| 47 | 42"H WROUGHT IRON PEDESTRIAN GATE |
| 48 | EXISTING UNUSED DRIVEWAYS TO BE CLOSED WITH STANDARD CURB, GUTTER, AND SIDEWALK |
| 49 | CONCRETE PAD FOR GATE MOTOR |
| 50 | ACCESS AISLE PAINTED STRIPPING, HATCH LINES MAX. 36" ON CENTER CONTRASTING COLOR OF AISLE PER 11B-503.3.3 |
| 51 | ONE OF TWO WASTE CONTAINERS TO BE FOR RECYCLABLE MATERIALS |

## SITE GENERAL NOTES

1. REFER TO SHEET A0.11 FOR PARKING ANALYSIS AND ADDITIONAL CODE ANALYSIS.

2. PROPOSED PROJECT TO BE IN FULL COMPLIANCE WITH CALIFORNIA GREEN BUILDING ORDINANCE, OR CALGREEN.

3. LANDSCAPING TO BE IN COMPLIANCE WITH DROUGHT TOLERANT PLANT REQUIREMENTS.

4. ADD ALLOWANCE FOR APPROX. 40 SECURITY CAMERAS DISPERSED THROUGHOUT THE SITE AND EXTERIOR OF HTLA BUILDING.

5. SEPARATE SUBMETER SHALL BE INSTALLED IN ANY BUILDING OR NEW SPACE WITHIN A BULDING THAT IS PROJECTD TO COMSUME MORE THAN 1,000GAL/DAY. **CBC 2019 5.303.1.2**

6. PEDESTRIANS SHALL BE PROTECTED DURING CONSTRUCTION, REMODELING AND DEMOLITION ACTIVITIES AS REQUIRED BY COUNTY OF LOS ANGELES BUILDING COD CHAPTER 34 (3306).

7. WASTE STORAGE AREA SHALL BE GRADED SO THAT STORAGE CONTAINERS REMAIN AT REST WITHOUT AUXILIARY RESTRAINING DEVICES.

8. FOR ALL FIRE CODE NOTES, SEE SHEET A0.01 "FIRE SAFETY".

9. FIRE FLOW CALCULATION:
TYPE OF CONSTRUCTION PER BUILDING CODE: TYPE IB / IIIB
FIRE FLOW CALCULATION AREA: 46,422 SQ FT
FIRE FLOW BASED ON THE FIRE-FLOW CALCULATION AREA: 4,000 GPM
REDUCTION FOR FIRE SPRINKLERS (MAX 50%): 2,000 GPM
TOTAL FIRE FLOW REQUIRED: 2,000 GPM

10. BASEMENT LEVEL ENCLOSED PARKING GARAGE EXCEEDING 12,000 SQUARE FEET REQUIRE A MECHANICAL SMOKE REMOVAL SYSTEM IN ACCORDANCE WITH LOS ANGELES COUNTY FIRE CODE 910.2.1.1.

## BIKE CALC

(CANTURBURY DESIGN) 2 X 16 + (BELSON) 2 X 16 + (BELSON) 3 X 12 = **100 BIKES**

## SITE PLAN LEGEND

| | |
|---|---|
| ▨ | (E) EXISTING BUILDING. NOT A PART |
| ⁘ | LANDSCAPED AREA |
| ⁘ | (N) NEW CONCRETE PAVING |
| ▬ • ▬ PL | PROPERTY LINE |
| ••••••••• | ACCESSIBLE PATH OF TRAVEL |
| 1 | KEYNOTE |
| ○ | (N) NEW STREET TREE. UNLESS OTHERWISE NOTED. SEE LANDSCAPE PLAN |
| ○ | (N) NEW MEDIUM FRUIT TREE. UNLESS OTHERWISE NOTED. SEE LANDSCAPE PLAN |

**PROJECT**

# KIPP: IGNITE ACADEMY

1628 EAST 81ST STREET
LOS ANGELES, CA 90001

APN:
6027-003-022, -023, -024, -025, -027, -028, -029, -030, -031

**CLIENT**

**KIPP : LA**
3601 EAST FIRST STREET
LOS ANGELES, CA 90017

**ARCHITECT**

BERLINER
ARCHITECTS

5976 WASHINGTON BLVD
CULVER CITY, CA 90232
TEL 310.838.2100
EMAIL richardb@berliner-architects.com

**CONSULTANTS**

**STRUCTURAL ENGINEER**
KPFF
700 SOUTH FLOWER ST. SUITE 2100
LOS ANGELES, CA 90017
213-310-8520

**MEP ENGINEER**
DESIGN WEST ENGINEERING
275 WEST HOSPITALITY LANE, SUITE 100
SAN BERNARDINO, CA 92408
909-890-3700

**CIVIL ENGINEER**
BRANDOW & JOHNSTON
700 SOUTH FLOWER ST. SUITE 1800
LOS ANGELES, CA 90017
213-596-4500

**LANDSCAPE ARCHITECT**
OFFICE OF THE DESIGNED LANDSCAPE
1131 SUPERBA AVENUE
VENICE, CA 90291
213-364-7397

**ISSUES**

| | SUBMITTAL | DATE |
|---|---|---|
| | SCHEMATIC DESIGN 100% | 07/01/2020 |
| | DESIGN DEVELOPMENT 100% | 07/31/2020 |
| | TRAFFIC SUBMITTAL | 09/16/2020 |
| | CUP SUBMITTAL | 10/23/2020 |
| | 50% CONSTRUCTION DOCUMENTS | 01/27/2021 |
| | 75% CONSTRUCTION DOCUMENTS | 02/26/2021 |
| | PLAN CHECK SUBMITTAL | 03/22/2021 |
| | PLAN CHECK RESUBMITTAL 1 | 10/01/2021 |
| | FIRE DEPARTMENT RESUBMITTAL | 02/07/2022 |
| | PLAN CHECK RESUBMITTAL 2 | 04/22/2022 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

RICHARD PAUL BERLINER
9/2021

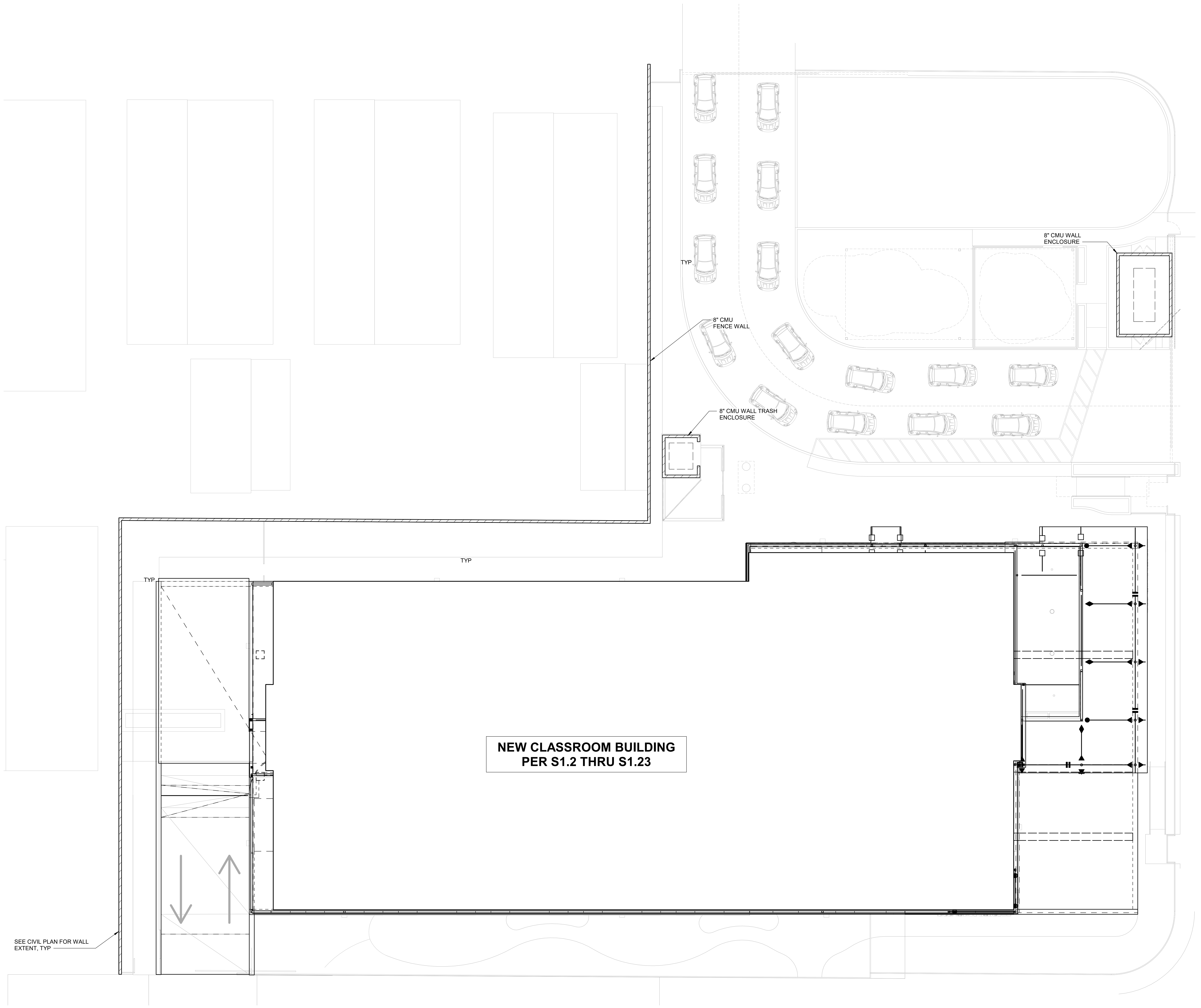
18-46 **JOB NUMBER**

Site Plan

A0.31

DATE PRINTED: 4/22/2022 4:39:55 PM

BIM 360 REVIT 2018: BERLINER ARCHITECTS
DATE PRINTED: 4/8/2022 3:35:47 PM



1 SITE PLAN
SCALE : 3/32" = 1'-0"

**PROJECT**

# KIPP: IGNITE ACADEMY

1628 EAST 81ST STREET
LOS ANGELES, CA 90001

APN:
6027-003-022, -023, -024, -025, -027, -028,
-029, -030, -031

**CLIENT**

**KIPP : LA**
3601 EAST FIRST STREET
LOS ANGELES, CA 90017

**ARCHITECT**

BERLINER
ARCHITECTS

5976 WASHINGTON BLVD
CULVER CITY, CA 90232
TEL 310.838.2100
EMAIL richardb@berliner-architects.com

**CONSULTANTS**

**STRUCTURAL ENGINEER**
KPFF
700 SOUTH FLOWER ST. SUITE 2100
LOS ANGELES, CA 90017
213-310-8520

**MEP ENGINEER**
DESIGN WEST ENGINEERING
275 WEST HOSPITALITY LANE, SUITE 100
SAN BERNARDINO, CA 92408
909-890-3700

**CIVIL ENGINEER**
BRANDOW & JOHNSTON
700 SOUTH FLOWER ST. SUITE 1800
LOS ANGELES, CA 90017
213-596-4500

**LANDSCAPE ARCHITECT**
AHBE LANDSCAPE ARCHITECTS
617 WEST SEVENTH ST. SUITE 304
LOS ANGELES, CA 90017
213-694-3800

**NOT FOR CONSTRUCTION**

**ISSUES**

| | SUBMITTAL | DATE |
|---|---|---|
| | SCHEMATIC DESIGN | 07/01/2020 |
| | DESIGN DEVELOPMENT | 07/31/2020 |
| | 50% CD | 01/21/2021 |
| | 75% CD | 02/25/2021 |
| | PLAN CHECK SUBMITTAL | 03/22/2021 |
| | PLAN CHECK RESUBMITTAL 1 | 10/01/2021 |
| | PLAN CHECK RESUBMITTAL 2 | 03/11/2022 |
| | | |
| | | |
| | | |
| | | |
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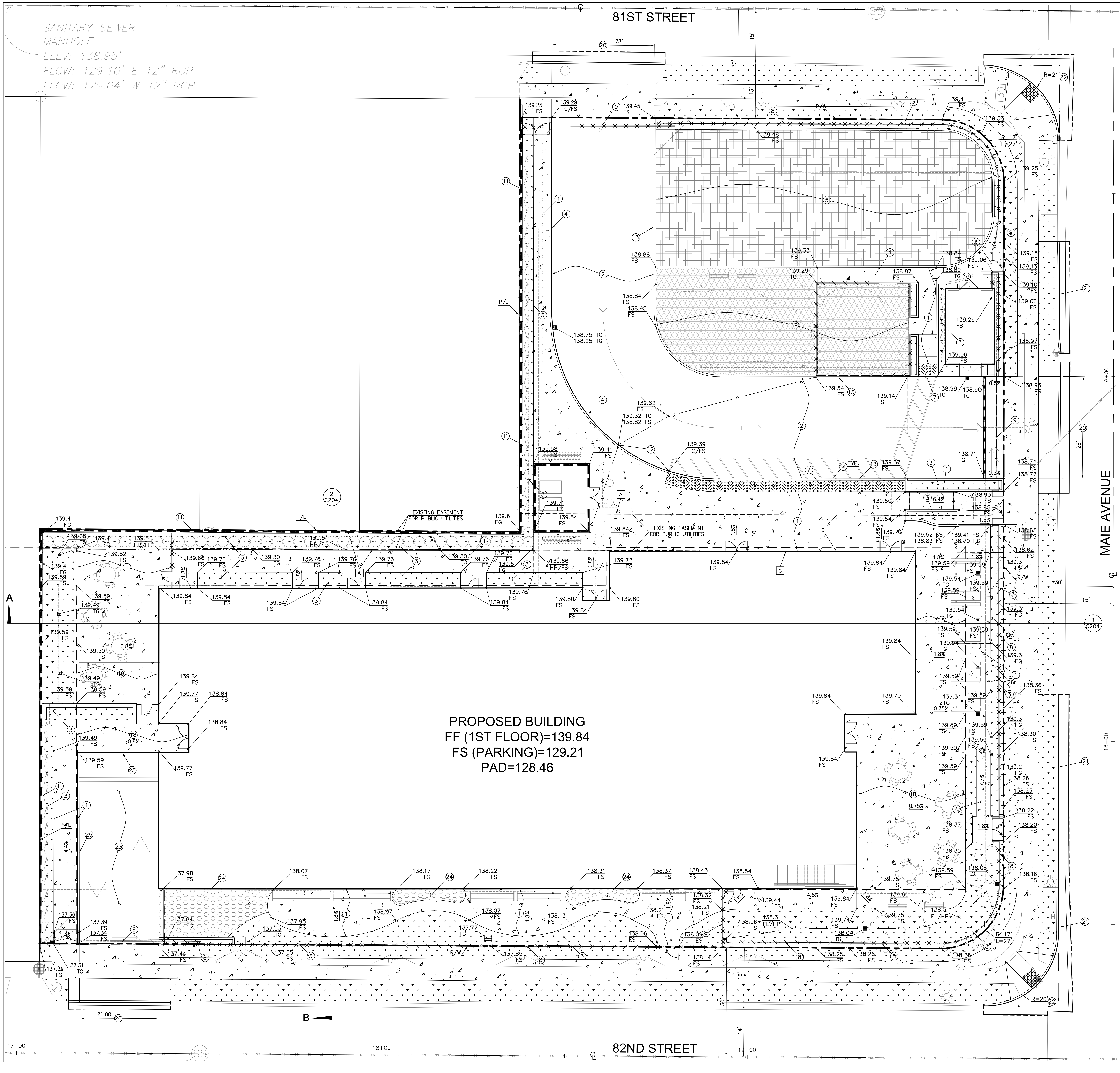
| | | |
| | | |
| | | |

1800852 **JOB NUMBER**

SITE PLAN

S1.10



DATE PRINTED: 12/26/2018 3:08:33 PM

## CONSTRUCTION NOTES:

1. CONSTRUCT CONCRETE PAVEMENT PER DETAIL 1 ON SHEET C201
2. CONSTRUCT AC PAVEMENT PER DETAIL 3 ON SHEET C201
3. PLANTER/LANDSCAPE PER LANDSCAPE PLANS
4. CONSTRUCT CONCRETE CURB PER DETAIL 4 ON SHEET C201
5. SYNTHETIC TURF PER LANDSCAPE PLANS.
6. CONSTRUCT CONCRETE GUTTER PER DETAIL 6 ON SHEET C201
7. INSTALL TRUNCATED DOMES PER DETAIL 10 ON SHEET C201.
8. FENCE PER ARCHITECTURAL PLANS
9. SLIDING GATE PER ARCHITECTURAL PLANS
10. TRANSFORMER PAD & ENCLOSURE PER ELECTRICAL PLANS
11. CONSTRUCT 8' HIGH CMU WALL PER DETAIL 12 ON SHEET C201 PER SEPARATE PERMIT.
12. RAISE AC PAVEMENT TRANSITION TO TOP OF CURB
13. CONSTRUCT FLUSH CURB PER DETAIL 8 ON SHEET C201
14. BOLLARD PER ARCHITECTURAL PLANS
15. CONSTRUCT CURB RAMP PER SPPWC STD. PLAN 111-5 CASE B TYPE I
16. CONCRETE BENCH PER LANDSCAPE PLANS.
17. CONCRETE EDGE PER LANDSCAPE PLANS
18. STRUCTURAL SLAB PER STRUCTURAL PLANS
19. PLAY AREA PER LANDSCAPE PLANS
20. CONSTRUCT CONCRETE DRIVEWAY PER SPPWC STANDARD PLAN 110-2 AND SEPARATE PERMIT.
21. CLOSE DRIVEWAY AND CONSTRUCT CONCRETE CURB AND GUTTER PER SEPARATE PERMIT.
22. CONSTRUCT CURB RAMP PER SPPWC STANDARD PLAN 111-5 AND SEPARATE PERMIT.
23. CONSTRUCT RAMP TO SUBTERRANEAN PARKING PER ARCHITECTURAL PLANS.
24. DECOMPOSED GRANITE PER LANDSCAPE PLANS.
25. GUARDRAIL PER ARCHITECTURAL PLANS.
26. THICKEN EDGE PER DETAIL 14 ON SHEET C201.

## LEGEND

| | |
|---|---|
| ▭ | BUILDING OUTLINE |
| ┄ | BUILDING OVERHEAD |
| ▨ | NEW CONCRETE PAVEMENT |
| ▩ | NEW ASPHALT CONCRETE PAVEMENT |
| ▨ | NEW PLANTER AREA PER LANDSCAPE |
| ▨ | NEW PLAY AREA PER LANDSCAPE |
| ▦ | NEW SYNTHETIC TURF PER LANDSCAPE |
| 1048.00<br>FS | PROPOSED SPOT ELEVATION |
| (1048.00)<br>FS | EXISTING SPOT ELEVATION |
| 146 | PROP. CONTOUR (1' INTERVAL) |
| 146 | EXIST. CONTOUR (1' INTERVAL) |
| — — — | PROPERTY LINE |
| — R — | RIDGE |
| - - - - | GRADE BREAK LINE |
| ← · · · ← | FLOW LINE |
| ×—×—× | EXIST. FENCE |
| ×—×—× | PROPOSED FENCE |
| — — — | PATH OF TRAVEL |

## NOTE TO CONTRACTOR:

REFER TO OFF-SITE IMPROVEMENT PLAN FOR THE PROPOSED WORK WITHIN THE PUBLIC RIGHT OF WAY.

A EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT: PURPOSE: PUBLIC UTILITIES: RECORDING DATE: IN BOOK 6058 PAGE 1, OF OFFICIAL RECORDS, AFFECTS: REAR 5 FEET OF LOT 100 AFFECTS, PLOTTED HEREON.

B EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT: PURPOSE: POLE LINES AND CONDUITS, RECORDING DATE: IN BOOK 11930 PAGE 220, OF OFFICIAL RECORDS, AFFECTS: REAR 5 FEET AFFECTS, PLOTTED HEREON.

C EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT: PURPOSE: POLE LINES, RECORDING DATE: IN BOOK 15324 PAGE 124, OF OFFICIAL RECORDS, AFFECTS: REAR FEET OF LOT 104 AFFECTS, PLOTTED HERON.

NORTH

## GRADING PLAN

0' 5' 10' 20'

GRAPHIC SCALE : 1"=10'

**PROJECT**

# KIPP: IGNITE ACADEMY

1628 EAST 81ST STREET
LOS ANGELES, CA 90001

APN:
6027-003-022, -023, -024, -025, -027, -028, -029, -030, -031

**CLIENT**

**KIPP : LA**
3601 EAST FIRST STREET
LOS ANGELES, CA 90017

**ARCHITECT**

BERLINER
ARCHITECTS

5976 WASHINGTON BLVD
CULVER CITY, CA 90232
TEL 310.838.2100
EMAIL richardb@berliner-architects.com

**CONSULTANTS**

**STRUCTURAL ENGINEER**
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700 SOUTH FLOWER ST. SUITE 2100
LOS ANGELES, CA 90017
213-310-8520

**MEP ENGINEER**
DESIGN WEST ENGINEERING
275 WEST HOSPITALITY LANE, SUITE 100
SAN BERNARDINO, CA 92408
909-890-3700

**CIVIL ENGINEER**
BRANDOW & JOHNSTON
700 SOUTH FLOWER ST. SUITE 1800
LOS ANGELES, CA 90017
213-596-4500

**LANDSCAPE ARCHITECT**
OFFICE OF THE DESIGNED LANDSCAPE
1131 SUPERBA AVENUE
VENICE, CA 90291
213-364-7397

**ISSUES**

| | SUBMITTAL | DATE |
|---|---|---|
| | SCHEMATIC DESIGN 100% | 07/01/2020 |
| | DESIGN DEVELOPMENT 100% | 07/31/2020 |
| | TRAFFIC SUBMITTAL | 09/16/2020 |
| | CUP SUBMITTAL | 10/23/2020 |
| | 50% CONSTRUCTION DOCUMENTS | 01/27/2021 |
| | 75% CONSTRUCTION DOCUMENTS | 02/25/2021 |
| | PRE-90% CD SET | 03/11/2021 |
| | PLAN CHECK SUBMITTAL | 03/22/2021 |
| | PLAN CHECK RESUBMITTAL 1 | 10/01/2021 |
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No.C80534
FOR BRANDOW & JOHNSTON

C18-0057 **JOB NUMBER**

GRADING PLAN

C401

# *APPENDIX B*

**Zero Accidents**
**Safety - First and Always**

# HEALTH AND SAFETY PLAN

## *Soil and Soil Vapor Investigation*

*1628 E. 81st Street*
*Los Angeles, California*

February 2, 2022

HMC Project HMC.1628 81st

*Prepared by:*

**HMC INC.**
211 Avenida Cordoba, Suite 200
San Clemente, California 92672

HMC is dedicated to providing a safe and healthful environment for employees, contractors and subcontractors, and protecting our clients' employees and assets, as well as the public. The guidelines set forth in this Health and Safety Plan summarize the minimum mandatory standards, requirements, and expectations to ensure the protection and safety of all HMC Inc team members while conducting environmental consulting activities at the Project Site. Each contractor or subcontractor must assume direct responsibility for their own employees' health and safety. Please note: **You are the person most responsible for safety in the workplace. You are encouraged to fully accept this responsibility and to be continuously aware of the conditions and situations that may compromise safety. No job is so urgent that it cannot be conducted safely.**

## Emergency Contact Information

| Title | Name | Phone & Pager Number |
|---|---|---|
| ***Emergency – Call 911*** | | |
| Ambulance | | 911 |
| Police | | 911 |
| Fire | | 911 |
| Local Hospital | Martin Luther King Community<br>1680 120th Street Street<br>Los Angeles, CA 90033 | (424) 338-8000 |
| Emergency Coordinators | Chris Stoker (HMC) | (949) 291-3677 cell |
| Alternate Emergency Coordinator | | |
| ***Project/Business*** | | |
| Project Manager / Designated Health and Safety Officer (DHSO) | Mark Cousineau (HMC) | (949) 361-3902 |
| Field Supervisors / Site Health and Safety Officer (SHSO) | Joshua Long (HMC) | (714) 421-0968 |
| Client Contact | Mark Cousineau (HMC) | (949) 361-3902 |

**ROUTE TO HOSPITAL:**

1. Head east on W 81st St toward S Denker Ave
2. Take S Vermont Ave, I-105 E and E 120th St to Healthy Wy in Willowbrook
3. Continue on Healthy Wy Facility is ~0.3 mi on right

# HASP ACKNOWLEDGEMENT SHEET

All project staff must sign, indicating they have read and understand the HASP and other referenced documents.  A copy of this HASP and other referenced documents must be made available for their review and readily available at the job site.

| Employee Name/Job Title | Date Distributed | Signature |
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## CONTRACTOR HASP ACKNOWLEDGEMENT SHEET

A copy of this safety plan shall be provided to contractors and subcontractors who may be affected by activities covered under the scope of this HASP. All contractors and subcontractors must comply with applicable OSHA, EPA, and local government rules and regulations.

| Firm Name | Contact Person | Date Distributed |
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# HEALTH AND SAFETY MEETING

ALL PERSONNEL PARTICIPATING IN THE PROJECT MUST RECEIVE INITIAL HEALTH AND SAFETY ORIENTATION. THEREAFTER, A BRIEF TAILGATE SAFETY MEETING IS REQUIRED AS DEEMED NECESSARY BY THE SITE SAFETY OFFICER (OR AT LEAST ONCE EVERY 10 WORKING DAYS).

| Date | Topics | Name of Attendee | Firm Name | Employee Initials |
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# VISITOR LOG

IT IS HMC's POLICY THAT VISITORS MUST FURNISH HIS/HER OWN PERSONAL PROTECTIVE EQUIPMENT. ALL VISITORS ARE REQUIRED TO SIGN THE VISITOR LOG AND COMPLY WITH THE SAFETY PLAN REQUIREMENTS. IF THE VISITOR REPRESENTS A REGULATORY AGENCY CONCERNED WITH SITE HEALTH AND SAFETY ISSUES, THE SITE SAFETY OFFICER SHALL ALSO IMMEDIATELY NOTIFY DHSO.

| Name of Visitor | Firm Name | Date of Visit | Signature |
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# TABLES

# APPENDICES

# 1.0 INTRODUCTION

This Health and Safety Plan document (HASP) has been developed to support assessment activities to be conducted by Hazard Management Consulting Inc (HMC) and sub-contractor personnel at the Project Site.

This HASP establishes the responsibilities, requirements, and procedures for the protection of personnel while conducting on-site work. Working conditions may necessitate modification of this plan. Except in emergencies, no deviations from this plan may be implemented without the prior notification and approval by the Project Manager with consultation from the Designated Health and Safety Officer (DHSO). The specific requirements of this HASP apply to HMC employees, contractors and subcontractors involved in implementing the described scope of work. It is not applicable to other contractors and/or site tasks unless specifically authorized in writing for such use by a designated HMC representative.

The health and safety protocols outlined in this plan are designed to ensure compliance with Federal, State and local regulations governing worker safety on hazardous waste sites. Incorporated in this HASP by either direct or indirect reference are all appropriate and applicable sections of the *HMC Safety and Health Program Manual*. In the case where an apparent conflict exists between what is presented in the HASP and the above referenced document the most conservative of the documents will initially be followed. The apparent conflict will be brought to the attention of the Project Manager and with consultation from the DHSO, and as appropriate the Client and/or Site Contact, a written resolution presented in the form of an addendum to this HASP prepared and presented to all field staff.

HMC’s intent is to provide a safe and healthful work environment for all employees and subcontractors. This HASP has been developed to fulfill the following objectives:

- Perform a hazard assessment to identify and assess health and safety hazards associated with project tasks and activities.
- Specify and establish procedures and practices to provide a safe and healthful workplace for employees, subcontractors, and site visitors.
- Detail personal protective equipment needed to protect employees and subcontractors conducting field task activities.
- Instruct employees, subcontractors and site visitors on procedures to minimize the potential for injury or exposure to a hazardous condition.
- Train employees and subcontractors on the proper action to be taken if a hazardous condition cannot be avoided by engineering controls.
- Provide guidelines for emergency response for known hazards and hazardous situations.
- Establish procedures to minimize or prevent adverse impact to employees, subcontractors, site visitors and the surrounding environment and community in the event of a release of a toxic chemical or substance.

## 1.1 IMPLEMENTATION AND MODIFICATION OF THE HASP

This HASP and other referenced documents are to be read and understood by all on-site field personnel. Site personnel are required to complete and sign a Personnel Acknowledge Form indicating acknowledgment, agreement, acceptance, and understanding of the contents of all appropriate health and safety documentation including but not limited to this HASP and HASP addendums.

All persons entering the site will receive a safety and health indoctrination/overview of the site that discusses site health and safety issues. Site workers and long-term visitors are required to read this HASP and sign and date the log as having read and understood the provisions of the HASP. Before any field activities begin, weekly, to discuss HASP addendums, and/or as conditions warrant health and safety tailgate meetings will be held with on-site field personnel to discuss safety procedures and to familiarize personnel with the potential hazards of the site. The Site Health and Safety Officer (SHSO) will document all tailgate and/or other health and safety meetings in a logbook. The SHSO will conduct routine (e.g., daily) assessments of the work area and on-site field personnel to ensure that the documented health and safety procedures are implemented and adequate. If any operation, practice, and/or equipment are not adequate, based on the SHSOs assessment, the SHSO will document the item in a logbook and notify the DSHO. Operations will cease or the faulty equipment will be removed and replaced, as appropriate. Unacceptable practices and/or faulty equipment will be remedied immediately, and the HASP will be modified to correct any deficiencies in the effectiveness of the Plan.

As, and if, required this HASP may be modified. The HASP will be modified in writing by preparing an addendum. Each addendum will be reviewed and approved by the Project Manager with consultation from the DHSO.

## 1.2 PROJECT SPECIFIC TASKS COVERED BY THIS HEALTH AND SAFETY PLAN

This HASP covers the following environmental consulting activities to be conducted by HMC at the Project Site.

Tasks to be conducted include

- Conduct Tailgate Safety Meeting
- Mark and Clear Borehole Locations
- Drill, Sample, and Abandon Soil Borings
- Install Soil Vapor Probes
- Sample Soil Vapor Probes
- Manage Investigation Derived Waste

## 2.0 ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES

### 2.1 ALL PERSONNEL

All field personnel are responsible for continuous adherence to health and safety procedures during the performance of any and all assigned work. In no case may work be performed in a manner that conflicts with the intent of this plan or the inherent health and safety cautions outlined in this HASP and other referenced documentation. **Please note that you are the person most responsible for safety in the workplace.** You are encouraged to fully accept this responsibility and to be continuously aware of the conditions and situations that may compromise safety. **No job is so urgent that it cannot be conducted safely**.

Any person who observes unsafe acts or conditions or other safety problems must immediately report observations/concerns to supervisory personnel (e.g., SHSO, DHSO, and Project Manager). If there is any dispute with regard to health and safety, the on-site HMC staff will attempt to resolve the issue and if the issue cannot be resolved, they will consult off-site technical staff and supervisors for assistance. The specific task or operation in question must be discontinued until the issue is resolved. No person may work in a manner that conflicts with the safety and environmental precautions expressed in this HASP. HMC employees are subject to progressive discipline and may be terminated for blatant or continued violations.

### 2.2 PROJECT MANAGER

The Project Manager is responsible for ensuring that the necessary personnel, equipment, and other applicable resources are available for this project and that the reporting, scheduling, and budgetary obligations for this project are met.

The Project Manager is ultimately responsible for ensuring that all project activities are completed in accordance with requirements set forth in this HASP and other referenced documentation. The Project Manager must perform at least one on-site safety review during the project. The Project Manager is responsible for ensuring that all incidents are reported and thoroughly investigated. The Project Manager must approve in writing any addenda or modifications to the HASP.

### 2.3 FIELD SUPERVISOR

The Field Supervisor is responsible for field implementation of the HASP in connection with the SHSO (there is some overlap of the health and safety responsibilities of the Field Supervisor and SHSO. In the case where these responsibilities are assigned to more than one individual is up to these individuals to coordinate their respective activities to ensure all their responsibilities are fully carried out and executed). This includes communicating site requirements to all on-site project personnel. The Field Supervisor is responsible for informing the SHSO and the Project Manager of any changes in the plan work elements, so that those changes may be properly addressed from a health and safety perspective. The Field Supervisor, as the on-site representative of HMC, is responsible for maintaining contact with the Client and/or Site Contact, and the Project Manager. Along with the SHSO the Field Supervisor is responsible for coordinating and enforcing on-site health and safety activities for all HMC team members (inclusive of contractors, subcontractors, and visitors) on site at all times. The Field Supervisor reports to the Project Manager and works directly with the Client and Site Contacts.

Other responsibilities of the Field Supervisor include:

- Conducting tailgate safety meetings and maintaining attendance logs and records.
- Enforcing the requirements of the HASP. This includes performing daily safety inspections of the work site.
- Stopping work, as required, to ensure personal safety and protection of property, or where life or property-threatening noncompliance with safety requirements is found.
- Determining and posting routes to capable medical facilities, emergency telephone numbers, and arranging emergency transportation to medical facilities.
- Notifying local public emergency officers of the nature of the site operations and posting of their telephone numbers in an appropriate location.
- Observing on-site project personnel for signs of chemical or physical trauma.
- Ensuring that all HMC team field personnel have been given the proper medical clearance, ensuring that all personnel have met appropriate training requirements and have the appropriate training documentation on site, and monitoring all team members to ensure compliance with the HASP.

## 2.4 SITE HEALTH AND SAFETY OFFICER (SHSO)

The SHSO will have the responsibility and authority to implement and enforce the approved HASP, this includes modifying/halting work, and removal of personnel from the work area if conditions change and effect on-site/off-site health and safety matters. The SHSO serves as the main contact for any on-site emergency. The SHSO conducts daily inspections to determine if operations are being conducted in accordance with the HASP and Cal-OSHA/OSHA regulations. The SHSO is assigned to the Project Manager for the duration of the project but reports directly to the DHSO with operational issues. An open dialogue is kept between the SHSO and supervisory personnel of the project to ensure that safety issues are quickly recognized, addressed, and corrective action taken (as required).

The SHSO has the ultimate responsibility to stop any operation that threatens the health and safety of the team, client employees and assets, the surrounding community, or that causes significant adverse impact to the environment. Other responsibilities include, but are not limited to:

- Implementing all on-site health and safety procedures and operations.
- Observing work crew members for symptoms of on-site exposure or stress.
- Upgrading or downgrading, in coordination with the DHSO and the Project Manager, the levels of personal protection based upon site observations and monitoring results.

- Informing the Project Manager of significant changes in the site environment that require equipment or procedure changes.
- Arranging and ensuring the availability of first aid and on-site emergency medical care, as necessary.
- Determining evacuation routes, establishing, and posting local emergency telephone numbers, and arranging emergency transportation.
- Ensuring that all site personnel and visitors have received the proper training and medical clearance before entering the site.
- Establishing exclusion, contamination reduction, and support zones.
- Ensuring that the respiratory protection program is implemented.
- Ensuring that decontamination procedures meet established criteria.
- Ensuring that there is a qualified first-aid person on site.

## 2.5 DESIGNATED HEALTH AND SAFETY OFFICER (DHSO)

The DHSO is responsible for the development, implementation, and oversight of the Health and Safety Program and the HASP. The specific duties of the DHSO include:

- Providing technical input into the design and implementation of the site HASP.
- Advising on potential for worker exposure to project hazards along with appropriate methods and/or controls to eliminate site hazards.
- Working with, supporting, and providing consultation to, the Project Manager on health and safety issues to ensure a safe workplace is maintained throughout field activities and to ensure continuous compliance with the HASP and other referenced documents.

## 2.6 SUBCONTRACTORS, VISITORS AND OTHER ON-SITE PERSONNEL

Subcontractors are responsible for the health and safety of their employees and for complying with the standards established in this HASP and other referenced documentation. Subcontractors will report to the Field Supervisor. All subcontractors, visitors, and other on-site personnel must check in with the Field Supervisor prior to gaining access to the work areas, to verify that all appropriate entry requirements are met.

# 3.0 HAZARD ASSESSMENT

## 3.1 PHYSICAL HAZARD ASSESSMENT

The typical physical hazards that have been identified for the scope of work to be conducted under this HASP are listed below in Table 1. Currently, additional safety consideration has been given to potential worker hazards associated with the COVID-19 pandemic. Appendix B provides a job safety analysis (JSA) of procedures to address this unique potential condition.

**Table 1**
**Physical Hazard Assessment**

| Tasks | Hazard | Tasks | Hazard | Tasks | Hazards |
|---|---|---|---|---|---|
| All | Lifting | All | Fire, explosion | All | Noise |
| All | Electrical | All | Vehicular operation | All | Heat exhaustion |
| All | Material handling | All | Uneven terrain, slips, trips, falls | All | Underground and overhead utilities |
| All | Hand and power tools | All | Equipment and personnel decontamination | NA | Hot work, welding, cutting |
| All | Heavy equipment, excavation, drilling | All | COVID-19 infection or transmission | All | Poisonous plants and animals |

NA = Not Anticipated but may occur.

## 3.2 CHEMICAL HAZARD ASSESSMENT

Based on discussions with site personnel chemicals of potential concern (COPC), which might be encountered during field activities include total petroleum hydrocarbons (TPH); various volatile organic compounds (VOCs, e.g., benzene, toluene, xylenes, ethylbenzene); and chlorinated VOCs (e.g., trichloroethylene and tetrachloroethylene).

## 4.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) will be required during the fieldwork. PPE levels will be based primarily on background hazard assessment data, work task requirements, and real-time monitoring data obtained by monitoring instrumentation (discussed in Section 6.0 of this HASP). The initial levels of protection anticipated for each task, based on existing site characterization data, are presented on Table 2.

**Table 2**
**Anticipated Personal Protective Equipment Requirements**

| Task | PPE | Upgrade | Special Requirements for Upgrade |
|---|---|---|---|
| Task 1: Tailgate Meeting | Level D | Level C (OV +P100) | Notify SHSO or PM |
| Task 2: Mark and Clear Soil Boring Locations | Level D | Level C (OV+P100) | Notify SHSO or PM |
| Task 3: Drill, sample, and abandon soil vapor probes, soil borings and hand auger borings | Level D | Level C (OV +P100)<br>1/2 mask minimum | Notify SHSO or PM |
| Task 4: Collect soil vapor samples | Level D | Level C (OV +P100)<br>1/2 mask minimum | Notify SHSO or PM |
| Task 5: Manage investigation derived waste | Level D | Level C (OV +P100)<br>1/2 mask minimum | Notify SHSO or PM |

OV+P100 = Organic vapor plus P100 pre-filter respirator cartridge

Only PPE that meets the following American National Standards Institute (ANSI) standards are to be worn.

- Eye protection - ANSI Z87.1
- Head protection - ANSI Z89.1
- Foot protection - ANSI Z41

Respiratory protective equipment must be NIOSH approved for the anticipated chemicals and hazards.

***Level D PPE shall consist of:***

- Hardhat
- Safety glasses (with side shields optional)
- Steel-toed work boots
- Traffic safety vest if traffic is present
- Long pants and shirt
- Work or protective gloves

***Modified Level D in addition to the above may include:***

- Level D PPE plus
- Nitrile gloves - N-dex for sampling (or another approved equivalent)
- Nitrile or rubber gloves - for chemical activities.
- Steel-toed, rubber boots - for activities inside the exclusion/regulated and decontamination areas.

## 5.0 EXPOSURE MONITORING

Exposure Monitoring will be conducted to assess hazard control measures that must be implemented. Assessing control measures involves characterization of the chemical, physical, and other safety hazards at the site using a PID in the breathing space. Hazard assessment is an on-going process. This section addresses the procedures for monitoring both chemical and physical hazards specific to the work tasks to be conducted.

### 5.1 AIR- MONITORING AND SAMPLING PROGRAM

An air-monitoring program will be implemented for monitoring petroleum hydrocarbons, volatile organic vapors, carbon monoxide, and dust in air. Data obtained from air monitoring will be utilized to assess proper levels of PPE in accordance with the action levels presented in Table 3 thereby ensuring worker safety and preventing off-site releases of hazardous substances in concentrations that threaten human health. The action levels are for air within the breathing zone of field personnel. The minimum requirements for the air-monitoring program are summarized on Table 4.

**Table 3**
**Air Monitoring Action Levels and PPE Requirements**

| COC | Action Levels (ppm) | PPE / Action |
|---|---|---|
| TPH | <50<br>50 to 100<br>>100 ppm<br>>200 ppm | Level D<br>Level D – Notify SHSO or PM<br>Level C – Notify SHSO or PM<br>Level C – Notify SHSO or PM, Stop work, Leave area |
| Aromatic Volatile Organic Compounds | <50<br>50 to 100<br>>100 ppm<br>>200 ppm | Level D<br>Level D – Notify SHSO or PM<br>Level C – Notify SHSO or PM<br>Level C – Notify SHSO or PM, Stop work, Leave area |
| Benzene | <1<br>0.25 to 1<br>>1<br>>10 to 50<br>>50 | Level D<br>Level D – Notify SHSO or PM<br>Level C - half mask respirator<br>Level C - Full face respirator<br>Notify SHSO or PM, Stop work, Leave area |

| COC | Action Levels (ppm) | PPE / Action |
|---|---|---|
| Halogenated Volatile Organic Compounds | <25<br>25 to 50<br>>50 | Level D<br>Level D – Notify SHSO or PM<br>Level C – Notify SHSO or PM, Stop work, Leave area |
| Carbonyl Volatile Organic Compounds | <25<br>25 to 50<br>>50 | Level D<br>Level D – Notify SHSO or PM<br>Level C – Notify SHSO or PM, Stop work, Leave area |
| Carbon Monoxide | <50 ppm<br>>50 ppm | Level D<br>Notify SHSO or PM, Stop work, Leave area |
| Dust (silica from concrete coring) | <0.025 mg/m$^3$<br>>0.025 mg/m$^3$ | Dust Control/Level D<br>Notify SHSO or PM, Stop work, Leave area |
| Dust (metals) | <10 mg/m$^3$<br>>10 mg/m$^3$ | Dust Control/Level D<br>Notify SHSO or PM, Stop work, Leave area |

**Table 4**
**Air Monitoring Program Minimum Requirements**

| Chemical of Concern | Instrument | Frequency | Special Equipment\Method |
|---|---|---|---|
| TPH<br>and<br>Aromatic Hydrocarbons<br>and<br>Volatile Organic Compounds | PID (or other equivalent direct reading instrument [DRI]) | During activities that can disturb impacted soil, groundwater and/or surface water, and FHP.<br>1. At the beginning of the task.<br>2. When the task changes.<br>3. Indications of chemical exposure or release.<br>4. Every 30 minutes unless readings are less than 10% of action level.<br>5. Every 60 minutes if concentrations are less than 10% of the action level | Lamp 10.2ev |

|  |  |  |  |
|---|---|---|---|
|  |  | 6. 1 time per shift if non-detected. |  |
| Benzene | PID, or Colorimetric Detector Tube | 1. Monitor contaminant concentrations in the workers breathing zone with a PID as stated above.<br>2. A PID reading of one (1.0) unit above background sustained for a period of one (1) minute shall be further characterized using a colorimetric detector tube sensitive to 0.5-ppm benzene.<br>3. A colorimetric detector tube reading of one (1.0) ppm benzene or greater will be verified by a second measurement, at the end of a ten (10) minute interval. If a reading of greater than one (1.0) ppm benzene is detected periodic measurements will be taken. Continuous readings using the PID will be taken during this period.<br>Refer to Section 6.1 of the HASP for more detailed procedures. | Lamp 10.2eV<br>Benzene colorimetric detector tube |
| Carbon Monoxide | Electronic Detector | 1. Monitor contaminant concentrations in the workers breathing zone with a CO detector prior to start of drilling.<br>2. Monitor contaminant concentrations in the workers breathing zone with a CO detector while drilling.<br>3. Monitor junctions in engine emission vent hosing and patch with duct-tape if necessary. | Electronic CO detector |
| Dust | Visual | No visual emissions permitted at boundary of worksite |  |

A portable photoionization detector (PID) with a 10.2 electron-volt (eV) ultra-violet radiation source will be used as the "front-line" instrument for monitoring petroleum hydrocarbons and volatile organic compounds in air (or other equivalent direct reading instrument [DRI]). The PID will be calibrated to isobutylene or hexane. In using a PID or other DRI an action level will be considered met or exceeded when the instrument reading exceeds the specific action level continuously for one (1) minute. Upon this condition, a second measurement will be taken at the end of a ten (10) minute interval.

Since benzene is considered most toxic compound and the benzene action level is the most conservative it will be used as the driver for assessing exposure and determining appropriate levels of PPE. The action level for benzene combines the occupational exposure standard for benzene listed in 29 CFR Part 1910.1028, and the ACGIH TLV-TWA. The following protocol will be used for monitoring exposure and establishing the appropriate level of protection for these exposures.

1. Monitor contaminant concentrations in the workers breathing zone with a PID (or other DRI) sensitive to aromatic compounds.
2. Level D protection is considered acceptable if instrument readings remain below one (1) unit above background.
3. An instrument reading of one (1.0) unit above background sustained for a period of one (1) minute shall be further characterized by taking a breathing zone air sample using a colorimetric detector tube. The colorimetric detector tube must be sensitive to 0.5-ppm benzene.
4. A colorimetric detector tube indication of one (1.0) ppm benzene or greater shall be verified by a second measurement, using a colorimetric detector tube, at the end of a ten (10) minute interval. As long as a reading of greater than one (1.0) ppm benzene is detected periodic measurements should be taken with the colorimetric detector tube. Continuous readings using the PID will be taken during this period.
5. Level C protection is required if colorimetric detector tube readings indicate benzene equal to or greater than one (1) ppm in the workers breathing zone. Alternatively, the work area may be evacuated until readings drop back to acceptable levels for a period of no less than 10 continuous minutes and/or engineering controls are instituted to ensure worker safety.
6. Level C protection with a half face respirator is considered acceptable if the colorimetric detector tube indicates greater than one (1.0) but less than ten (10) ppm benzene.
7. Level C protection with a full-face respirator is considered acceptable if the colorimetric detector tube indicates greater than ten (10) but less fifty (50) ppm benzene.
8. If levels of greater than 50 units above background with the PID or 50 ppm benzene using a colorimetric detector tube are detected work will stop and the work area evacuated. Periodic measurements will be taken and/or engineering controls instituted to ensure worker safety and prevent off-site releases of hazardous substances in concentrations that threaten human health. Work may resume when PID reading and colorimetric tubes indicated that benzene measurements have been reduced below 50 units/ppm.

## 5.2 EXPLOSION HAZARDS

Explosion hazards exist from the presence of volatile and potentially explosive hydrocarbon vapors in saturated soils and groundwater. Explosion hazards will not be monitored during work activities.

## 5.3 NOISE

Action levels for noise exposure are provided on Table 5.

**Table 5**
**Noise Monitoring Action Levels**

| Intensity (dBA) | Action |
|---|---|
| <85 | Work may continue without change. |
| >85 | Hearing protection required. |

## 5.4 HEAT STRESS MONITORING

The stress of working in a hot environment can cause a variety of illnesses including heat exhaustion or heat stroke. Heat stroke can be fatal. Personal protective equipment can significantly increase heat stress. To reduce or prevent heat stress, frequent rest periods and controlled beverage consumption to replace body fluids and electrolytes may be required.

Additionally, quantitative physiological monitoring for heat stress may be conducted. Physiological monitoring for heat stress includes heart rate as a primary indicator. The frequency of monitoring depends on the ambient temperature, the level of protection used on-site, and the type of work being performed. To determine the initial monitoring frequency, after a work period of moderate exertion, use the information provided on Table 6.

**Table 6**
**Heat Stress Monitoring Frequency**

| Adjusted Temperature* | Level D | Level C |
|---|---|---|
| 90 °F or above | after 45 minutes | after 15 minutes |
| 87.5 to 90 °F | after 60 minutes | after 30 minutes |
| 82.5 to 87.5 °F | after 90 minutes | after 60 minutes |
| 77.5 to 82.5 °F | after 120 minutes | after 90 minutes |
| 72.5 to 77.5 °F | after 150 minutes | after 120 minutes |

°F = temperature in degree Fahrenheit.
* Adjusted air temperature equals the observed temp + (13 x % sunshine); air temp measured with bulb shielded from radiant heat, percent sunshine is the time sun is not covered by clouds thick enough to produce a shadow (100% = no cloud cover and a sharp, distinct shadow; 0% = no shadows)

Physiological monitoring of heat stress will be conducted by counting the radial pulse during a 30 second period as early as possible in the rest cycle. If the heart rate exceeds 110 beats per minute, shorten the next work cycle by one third while keeping the rest cycle the same. At the next rest cycle, count the radial pulse during a 30 second period as early as possible in the rest cycle. If the heart rate again exceeds 110 beats per minute, shorten the next work cycle by one third while keeping the rest period the same. In addition, take the oral temperature of the worker.

On-site personnel shall be trained to recognize the symptoms of heat stress and the appropriate action to take upon recognition. Even though physiological monitoring is not always necessary, it is essential that personnel understand the significance of heat stress and its recognition. It is also important that personnel understand the difference between heat exhaustion and heat stroke. Some of the symptoms for heat exhaustion and heat stroke are provided in Table 7.

**Table 7**
**Heat Exhaustion versus Heat Stroke Symptoms**

| Heat Exhaustion | Heat Stroke |
|---|---|
| Clammy skin | Staggering gait |
| Weakness | Mental confusion |
| Fatigue | Hot skin |
| Light headiness | Temperature rise (yet may feel chilled) |
| Fainting | Convulsions |
| Rapid pulse | Unconsciousness |
| Nausea (vomiting) | Incoherent, delirious |

If a worker exhibits the symptoms of heat exhaustion conduct the following:

- Remove the victim to a cool and uncontaminated area. Elevate the victim’s feet and allow him/her to rest.
- Remove protective clothing. Loosen tight or constrictive clothing.
- Cool the victim with cold cloths and give “sips” of cool water. Cool the temperature control areas of the body, forehead, back of neck and wrists

If a worker exhibits the symptoms of heat stroke immediately perform the following steps:

- Remove victim to a cool, uncontaminated area.

- Cool the victims’ whole body with water compresses and/or rapid fanning.
- Give water to drink if conscious.
- Transport the victim to a medical facility for further cooling and monitoring of body functions.

**HEAT STROKE IS A LIFE-THREATENING MEDICAL EMERGENCY!**

## 6.0 MEDICAL MONITORING, SANITATION AND HYGIENE PRACTICES

### 6.1 MEDICAL SURVEILLANCE PROGRAM

Based on current data characterizing the site contamination and potential hazards to personnel involved in project activities, a project specific medical surveillance program is not required beyond that which is required under Title 8 CCR 5194 HAZWOPER. Employee exposure to airborne contaminants is not expected to approach the applicable Cal-OSHA action levels or permissible exposure levels under foreseeable work conditions.

Medical evaluations for the wearing of respiratory protection will be given to each worker required to wear a respirator in accordance with Title 8 CCR Section 5144. A certification by a licensed physician of fitness to wear respiratory protection is required for each worker entering the regulated area/exclusion zone if they are required to wear respiratory protection.

### 6.2 SANITATION AND PERSONAL HYGIENE

Sanitation and personal hygiene facilities are available at the site. Workers are expected and encouraged to wash their face and hands before leaving the site and before smoking, eating or taking breaks.

### 6.3 DRINKING WATER

Drinking water will not be provided and is unavailable at the site. Each employee shall bring their own drinking water to the site and keep it inside their vehicle. The water will be kept cool to encourage personnel to drink. If temperatures exceed 75 °F, break periods will be provided to encourage people to drink water and metabolite supplements such as Gatorade.

# 7.0 TRAINING

All site workers have received the following information:

The SHSO shall ensure that each site worker has a working knowledge of the HASP and other referenced documentation, and is responsible for conducting regular Tailgate Safety Meeting(s) (at the beginning of each shift, whenever new personnel arrive at the site, and as site conditions change, as tasks are added, revised, and/or changed, and as addendum to this HASP require). The typical Tailgate Safety Meeting will be brief and address only the most critical safety issues, such as the types of accidents most likely to occur, and areas where improvements need to be made with respect to health and safety. A more in-depth tailgate session will be held at the beginning of each week, whenever new personnel arrive at the site, and when new types of activities are undertaken. The physical hazards of concern will be identified at each meeting. Potential topics of discussion at these meetings include the following:

- Protective Clothing/Equipment (Task Specific).
- Chemical Hazards (Task Specific).
- Physical Hazards (Task Specific).
- Emergency Procedures.
- Hospital/Ambulance Route.
- Standard Operating Procedures.
- Other safety topics which are relevant to the site

# 8.0 CONTINGENCY PLAN AND EMERGENCY EVACUATION PLAN

At least one person trained in first aid and CPR will be present on site at all times work is being conducted. First aid and blood borne pathogen supplies shall be available at the site at all times. Personnel shall be informed of the location of such supplies during the tailgate safety meeting. In the event of an emergency, personnel will immediately leave the work area and assemble at a prearranged area.

If a fire occurs, personnel shall assess the size and nature of the fire. If it is safe to do so, it shall be extinguished with a fire extinguisher. If it is not safe to extinguish with a fire extinguisher, the County Fire Authority will be contacted at 911.

In the event of a first aid emergency, if the injured person can self-administer first aid they should be encouraged to do so. If the person cannot self-administer first aid, the on-site qualified first aid person shall administer first aid if it is safe to do so. Personnel shall not endanger themselves to render aid to another person.

A cell phone will be easily accessible at the work areas for emergency notifications.

.

## 9.0 DECONTAMINATION PROCEDURES

Establishment of decontamination procedures for personnel and equipment is necessary to control contamination and to protect field personnel.

### 9.1 EQUIPMENT DECONTAMINATION AND DISPOSAL OF CONTAMINATED MATERIALS

Equipment requiring decontamination may include excavation equipment, hand tools, soil and water sampling devices, and certain protective equipment. Tools and protective equipment shall be decontaminated using a soft bristle brush and a detergent (Alconox or TSP mixed in water) followed by two water rinses.

All materials and equipment used for decontamination must be disposed of properly. Disposable clothing, tools, buckets, brushes, and all other equipment that is contaminated will be secured in appropriately Department of Transportation (DOT) specification 55-gallon drums or other containers. Clothing that will be reused, but which is not completely decontaminated on the site, will be secured in plastic bags before being removed from the site. Contaminated wash water solutions shall be transferred into portable storage tanks, pending disposal. All soil cuttings produced during soil sampling will be centrally located for subsequent characterization and disposal.

Exposure to chemicals can be divided into two categories:

- Injuries from direct contact, such as acid burns or inhalation of toxic chemicals.
- Potential injury due to gross contamination on clothing or equipment.

For inhalation exposure cases, a qualified physician can only perform treatment. If the contaminant is on the skin or the eyes, immediate measures can be taken on-site to counteract the substance's effect. First aid treatment consists of flooding the affected area with copious amounts of water. The SHSO must assure that an adequate supply of running water or a portable emergency eyewash is available on-site.

When protective clothing is grossly contaminated, contaminants can possibly be transferred to treatment personnel and cause an exposure. Unless severe medical problems have occurred simultaneously with personnel contamination, the protective clothing should be carefully removed.

# 10.0 SITE AND TRAFFIC CONTROL PLAN

## 10.1 TRAFFIC CONTROL

Vehicular traffic is limited to onsite personnel and authorized contractors working onsite. Traffic control at the site is controlled through locked gates at the entrance/exit. All contractor personnel entering the site are required to have entry permissions.

# APPENDIX A
# CODE OF SAFE PRACTICES
## General Construction Services Code of Safe Practices

1. All persons shall follow these safe practices rules, render every possible aid to safe operations, and report all unsafe conditions or practices to the foreman or superintendent.
2. Foremen shall insist on employees observing and obeying every rule, regulation, and order as is necessary to the safe conduct of the work and shall take such action as is necessary to obtain observance.
3. All employees shall be given frequent accident prevention instructions. Instructions shall be given at least every 10 working days.
4. Anyone known to be under the influence of drugs or intoxication substances which impair the employee's ability to safely perform the assigned duties shall not be allowed on the job while in that condition.
5. Horseplay, scuffling, and other activities which tend to have an adverse influence on the safety or well-being of the employees shall be prohibited.
6. Work shall be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment.
7. No one shall knowingly be permitted or required to work while the employee's ability or alertness is so impaired by fatigue, illness, or other causes that it might unnecessarily expose the employee or others to injury.
8. Employees shall not enter manholes, underground vaults, chambers, tanks, silos, or other similar places that receive little ventilation, unless it has been determined that it is safe to enter.
9. Employees shall be instructed to ensure that all guards and other protective devices are in proper places and adjusted and shall report deficiencies promptly to the foreman or superintendent.
10. Crowding or pushing when boarding or leaving any vehicle or other conveyance shall be prohibited.
11. Workers shall not handle or tamper with any electrical equipment, machinery, or air or water lines in a manner not within the scope of their duties, unless they have received instructions from their foreman.
12. All injuries shall be reported promptly to the foreman or superintendent so that arrangements can be made for medical or first aid treatment.
13. When lifting heavy objects, the large muscles of the leg instead of the smaller muscles of the back shall be used.
14. Inappropriate footwear or shoes with thin or badly worn soles shall not be worn.

15. Materials, tools, or other objects shall not be thrown from buildings or structures until proper precautions are taken to protect others from the falling objects.
16. Employees shall cleanse thoroughly after handling hazardous substances and follow special instructions from authorized sources.
17. Work shall be so arranged that employees are able to face each ladder and use both hands while climbing.
18. Gasoline shall not be used for cleaning purposes.
19. No burning, welding, or other source of ignition shall be applied to any enclosed tank or vessel, even if there are some openings, until it has first been determined that no possibility of explosion exists, and authority for the work is obtained from the foreman or superintendent.
20. Any damage to scaffolds, falsework, or other supporting structures shall be immediately reported to the foreman and repaired before use.
21. All tools and equipment shall be maintained in good condition.
22. Damaged tools or equipment shall be removed from service and tagged **“DEFECTIVE.”**
23. Pipe or Stillson wrenches shall not be used as a substitute for other wrenches.
24. Only appropriate tools shall be used for the job.
25. Wrenches shall not be altered by the addition of handle extensions or “cheaters.”
26. Files shall be equipped with handles and not used to punch or pry.
27. A screwdriver shall not be used as a chisel.
28. Wheelbarrows shall not be pushed with handles in an upright position.
29. Portable electric tools shall not be lifted or lowered by means of the power cord. Ropes shall be used.
30. Electric cords shall not be exposed to damage from vehicles.
31. In locations where the use of a portable power tool is difficult, the tool shall be supported by means of a rope or similar support of adequate strength.
32. Only authorized persons shall operate machinery or equipment.
33. Loose or frayed clothing, or long hair, dangling ties, finger rings, etc. shall not be worn around moving machinery or other sources of entanglement.
34. Machinery shall not be serviced, repaired, or adjusted while in operation, nor shall oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards to protect the person performing the work.
35. Where appropriate, lock-out procedures shall be used.
36. Employees shall not work under vehicles supported by jacks or chain hoists, without protective blocking that will prevent injury if jacks or hoists should fail.
37. Air hoses shall not be disconnected at compressors until hose line has been bled.

38. All excavations shall be visually inspected before backfilling, to ensure that it is safe to backfill.

39. Excavating equipment shall not be operated near tops of cuts, banks, and cliffs if employees are working below.

40. Tractors, bulldozers, scrapers, and carryalls shall not operate where there is possibility of overturning in dangerous areas like edges of deep fills, cut banks, and steep slopes.

41. When loading where there is a probability of dangerous slides or movement of material, the wheels or treads of loading equipment, other than that riding on rails, should be turned in the direction which will facilitate escape in case of danger, except in a situation where this position of the wheels or treads would cause a greater operational hazard.

# Performance of Field Work During Coronavirus (COVID-19) Outbreak

**(Currently Required Addendum to all Company JSAs)**

Date:

Location:

Onsite Work Crew:

## APPLICATION:

The requirements detailed in this JSA apply to all field work Company wide as of 03/19/2020 and until rescinded. As such it is a required addendum to all company and Client Site-Specific Health & Safety Plans (HASPs) and JSAs. This document applies to all field work types performed by HMC.

## PRECEDENCE:

Actions and mitigation measures described in this JSA supersede all other directives, except where more protective mitigation measures are specified.

| Task | Hazards | Hazard Control Measures | PPE |
|---|---|---|---|
| **1. Work Acceptance, Planning & Preparation** | Work that is not 100% outdoors and/or indoors at vacant facilities presents an increased infection and transmittal hazard.<br>Work requiring interaction with outside parties presents an increased infection and transmittal hazard.<br>More than one Technician per vehicle presents an increased infection and transmittal hazard.<br>Requiring Technicians to share or swap vehicles presents an increased infection and transmittal hazard.<br>Travel that requires overnight lodging and dining out presents an increased infection and transmittal hazard. | 1. Do not work accept assignments that involve entry into occupied spaces or structures.<br>2. Reduce work scopes so that typically required interactions are temporarily eliminated.<br>3. Pre-Plan and choreograph any required entry into occupied spaces, interactions with the public, clients, site personnel, and/or adjacent property personnel. Review requirements of this JSA, especially Social Distancing requirements with the parties involved. Cancel any work requiring interactions that cannot be properly<br>4. Schedule no more than one Technician per vehicle even if this means mobilizing an unneeded vehicle to a site so that Technicians mob/demob solo.<br>5. Schedule Technicians to drive the same vehicles each day.<br>6. Avoid travel whenever feasible. Schedule Technicians on day trips form their local office even if this reduced onsite work efficiency<br>7. If overnight lodging is required, secure rooms at chains with in-house dining and better than average expected hygiene standards. | |

| Task | Hazards | Hazard Control Measures | PPE |
|---|---|---|---|
| **2. Working Around Others** | Working in close proximity with others presents an infection and transmittal hazard. | 1. Report/Stay Home If Symptomatic. Any employee who has symptoms of acute respiratory illness (fever, cough, shortness of breath) should contact their manager before coming into work and arrange to stay at home.<br>Any employee becoming symptomatic while at work should immediately Stop Work and contact their manager before returning to the office.<br>2. Report If Compromised. Any employee who feels that they might be considered medically compromised (older, heart disease, lung disease, diabetes, etc.) or who lives with someone who may be considered medically compromised should report to their manager.<br>3. Act Infected. Conduct yourself as if you are infected. Having this mindset as you move through your workday is vital to ensuring you will adhere to the directives listed below.<br>4. Respect Social Distancing Requirements. Keep a minimum of 6 foot separation between yourself and others. This applies to the office and the field.<br>5. In-person interactions with clients, members of the public and other employees should be kept to an absolute minimum and occur only as required for work related purposes.<br>6. If planned interactions are not as anticipated and do not appear to be controllable, STOP WORK, RETREAT to your vehicle and contact your manager. DO NOT enter occupied spaces where Social Distancing is not being demonstrated or is otherwise ineffective or unfeasible. | **Hi-Viz Vest**<br>**Safety Glasses** (or goggles)<br>**Nitrile Gloves**<br>**Hard Hat w/attached Face Shield** (optional) |

| Task | Hazards | Hazard Control Measures | PPE |
|---|---|---|---|
| **3. Manipulating Latches, Opening Doors, Moving Through Public Spaces** | Contact with any surface presents an infection and transmittal hazard. | 1. Technicians should don new Nitrile gloves at all times when outside of their vehicles including when meeting with Clients or entering businesses. No exceptions. | **Hi-Viz Vest**<br>**Safety Glasses** (or goggles)<br>**Nitrile Gloves** |
| **4. Handling Pool or Shared Equipment & Instruments** | Contact with equipment used by others presents an infection and transmittal hazard. | 1. Pool or shared equipment must be thoroughly disinfected and/or deconned by the user before handing to others or returning to the shelf.<br>2. Pool instruments and equipment should only be handled while wearing clean Nitrile gloves, especially when being returned to the shelf. | **Hi-Viz Vest**<br>**Safety Glasses** (or goggles)<br>**Nitrile Gloves** |
| **5. Entering Cab After Performing Work** | A contaminated cab is not safe to eat or drink in and presents an infection and transmittal hazard. | 1. Any impacted PPE, including gloves, should be removed and your hands washed with soap and water prior to entry into the cab. The cab must remain a contaminate free zone.<br>2. Wipe down the interior control surfaces (steering wheel, turn signal and transmission stalks, HVAC and radio controls, etc.) of trucks with disinfectant wipes at the end of each shift.<br>3. If a Technician is operating a vehicle that they did not operate the day prior, wipe down the interior control surfaces at the start of their shift. | **Hi-Viz Vest**<br>**Safety Glasses (or goggles)**<br>**Nitrile Gloves** |

| Task | Hazards | Hazard Control Measures | PPE |
|---|---|---|---|
| Describe in this space any **site-specific task** that was created for work at this site | Describe the identified **Hazards** | Describe the **Hazard Control Measures** | Note any essential **PPE** |
| Describe in this space any **site-specific task** that was created for work at this site | Describe the identified **Hazards** | Describe the **Hazard Control Measures** | Note any essential **PPE** |

| | |
|---|---|
| Work Type | Performance of Field Work During Coronavirus (COVID-19) Outbreak |
| JSA Type | Summary JSA |
| Organization | |

***My signature** below indicates that I have read this JSA; that I understand the hazards and safe work practices associated with the tasks; and that all requirements and conditions listed above have been met and verified prior to starting the work.*

**Name/Signature**______________________________ **Date/Time**______________________

**Name/Signature**______________________________ **Date/Time**______________________

**Name/Signature**______________________________ **Date/Time**______________________

**Name/Signature**______________________________ **Date/Time**______________________

# Daily Debrief / Lessons Learned

Note what worked well.  Note what needs improvement.

| Date / Time | Name(s) | What went well? | What could use improvement? |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

# *APPENDIX C*

# SOIL SAMPLING PROCEDURES

This appendix summarizes soil sampling procedures that may be used at the Site. The specific sampling procedure selected generally depends on the purpose of the sample. Soil samples will typically be collected with a trowel or hand auger as described in Section C.4. If unanticipated soil impacts are encountered and additional delineation is required, drilling methods will be considered as described in Sections C.2 and C.3.

## C.1 SOIL SAMPLING FROM EXCAVATIONS, FILLS OR STOCKPILES

1. Soil samples collected from excavations, fills, or stockpiles for chemical analyses will be collected in laboratory-supplied glass containers or by using a slide-hammer-style sampler with 4-inch-long brass or stainless-steel tubes.
2. If a slide-hammer-style sampler is used the sampler will be washed between samples using an inorganic detergent followed by two tap water rinses and a deionized water rinse. Following retrieval of the sample, the sample tube will be removed from the sampler and the ends will be fitted with PVC end caps.
3. Each sample jar or tube will be labeled with the sample number and date.
4. Samples will be transferred to the analytical laboratory using standard chain-of custody protocols. At least one chain-of-custody form will be used for each delivery group. The following information will be clearly written on each chain of custody form:
    - HMC project number;
    - Laboratory name, address, and phone number;
    - Date;
    - HMC project manager and phone number;
    - Sample identification;
    - Sample date and time;
    - Analysis requested, including U.S. EPA method number;
    - Preservation;
    - Sampler name and signature;
    - Special instructions;
    - Date results requested;
    - Date delivered to laboratory; and
    - Signature, date, and time for all subsequent changes in sample control.

A copy of the completed chain of custody form for each cooler will be sealed in a plastic bag and placed in the cooler. A copy will be retained by field personnel to be placed in the project file. The cooler lid will then be secured with a numbered custody seal. The laboratory performing the analysis will be instructed to return a completed copy of the chain of custody with the analytical results.

## C.2 DRILLING AND SOIL SAMPLING PROCEDURES

1. Borings will be drilled by a State-licensed drilling contractor with a truck-mounted drill rig equipped with hollow-stem augers.
2. The augers will be pressure washed or steam cleaned prior to drilling.
3. Soil descriptions, in general accordance with the Unified Soil Classification System, sample type and depth, and related drilling information, will be recorded on a boring log under the supervision of a registered geologist.
4. Soil samples will be collected using a split-barrel modified California sampler at intervals to be determined by the specific conditions being assessed.
5. The sampler will be washed between sampling intervals with an inorganic detergent; followed by two tap water rinses and a deionized-water rinse.
6. Soil samples will be collected in stainless steel or brass sampling tubes inside the sampler.
7. Following retrieval of the sampler, the second tube from the shoe of the sampler will be removed from the sampler and the ends will be fitted with PVC end caps. The sample will be labeled retained for potential laboratory analysis.
8. The soil in the first sample tube from the shoe of the sampler will be used to describe the soil.

## C.3 GEOPROBE PROCEDURES

1. Points will be advanced to the specific intervals below ground surface to be determined by the specific conditions being assessed, using a Geoprobe sampling rig.
1. The Geoprobe points will be cleaned prior to sampling.
2. The plastic sample liner containing soil from the collected sample depth will be removed from the sampler and a six-inch portion of the plastic sampler containing the 2-to-3-foot sample will be cut, capped, and retained in an ice chest for chemical analyses.
5. The Geoprobe points will be washed prior to the start of work and between sampling intervals.

## C.4 HAND-AUGERING PROCEDURES

1. Hand augured samples will be collected using a slide hammer hand sampler with 4-inch-long brass or stainless-steel sample tubes.
2. Hand-auguring equipment will be washed between borings with an inorganic
3. detergent, followed by two tap water rinses and a final deionized-water rinse.
3. Immediately after sample collection, the ends of the sample tubes will be fitted with PVC end caps.

## C.5 SAMPLE HANDLING

1. The samples retained for chemical analyses will be placed in Ziploc bags and stored in an ice chest cooled using water ice or "blue" ice. Samples may be transferred to and stored in a refrigerator prior to delivery to the laboratory.
2. The samples will be delivered to a State-certified laboratory within one working day of collection, or a State-certified mobile laboratory will analyze the samples on-Site. Sample handling, transport, and delivery to the laboratory will be documented using chain-of-custody procedures, including the use of chain-of-custody forms.

## C.6 SAMPLE LOCATION

1. 1 All sample locations will be documented using to accuracy sufficient to meet the requirements of the specific Site conditions being assessed.
2. 2 Sample locations and sample depths will be made by HMC or other designated field participants.

## C.7 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

1. 1 Trip Blanks: These samples are used to demonstrate that the samples have not been contaminated during transportation or at the laboratory. If VOC analyses are being conducted, two trip blanks (VOC vials containing high-performance liquid chromatography-grade water) will be present in each cooler received from the laboratory. These will be uniquely labeled in the field, recorded on the chain of custody for the cooler in which they are present, and returned to the laboratory for VOC analysis, as necessary.
2. Equipment Blanks: If non-dedicated sampling equipment is being use (e.g., hand auger, trowel) on equipment blank will be collected per day of sampling by pouring laboratory-prepared deionized water over the equipment and collecting a sample of the rinsate.
3. Temperature Blank: A temperature blank will be present in each cooler received from the laboratory; it will be used to record the temperature inside the cooler upon receipt by the laboratory.
4. A matrix spike/matrix spike duplicate (MS/MSD) sample pair will be collected at a rate of one per 20 samples. These samples will be designated on the chain-of-custody.
5. The laboratory will perform analysis on laboratory control spike samples in accordance with their internal Quality Assurance Plan.
6. Data provided by the laboratory will be reviewed for data representativeness, reproducibility, completeness, erroneous data, and discrepancies to evaluate the data usability. Data will be assessed in accordance with guidance from the EPA Contract Laboratory Program National Functional Guidelines.

# Information of Fire Flow Availability

# APPENDIX G

FORM 196
Rev. 09/20

# COUNTY OF LOS ANGELES FIRE DEPARTMENT
## FIRE PREVENTION DIVISION

Fire Prevention Engineering
5823 Rickenbacker Road
Los Angeles, CA 90040
Telephone (323) 890-4125 Fax (323) 890-4129

# Information on Fire Flow Availability for Building Permit

## For All Buildings Other Than One and Two Family Dwellings (R-3), Townhomes, and Accessory Dwelling Unit's

**INSTRUCTIONS:**

Complete parts I & II:

Verifying fire flow, fire hydrant location and fire hydrant size.

**PROJECT INFORMATION**
**(To be completed by applicant)**

**PART I**

Building Address: 1628 E 81st Street, Los Angeles, CA 90001

City or Area: Los Angeles APN: 6027-003-(022-025, 027-031)

Nearest Cross Street: 81st Street & Maie Avenue

Distance of Nearest Cross Street to Property Line: 10'

Applicant: Ian Fitzpatrick Telephone: ( ) 310-838-2100

Address: 5976 Washington Blvd, Culver City, CA 90232

City: Culver City

Occupancy (Use of Building): ________ Fire Sprinklered: Yes ☐ No ☐

Type of Construction: 3B

Square Footage: 46,583 SF Number of Stories: 3

Ian Fitzpatrick
Digitally signed by Ian Fitzpatrick
DN: C=US, E=ianf@berliner-architects.com, O=Berliner Architects, CN=Ian Fitzpatrick
Date: 2021.03.30 14:52:25-07'00'
Applicant's Signature

03/30/2021
Date

**PART II**

## INFORMATION ON FIRE FLOW AVAILABILITY
**(Part II to be completed by Water Purveyor)**

Location of hydrant 81st St, 45' w/o Maie

Hydrant Number 217

Distance from Nearest Property Line ~30 Size of Hydrant 6" Size of Water main 8"

Static PSI 61 Residual PSI 53 Orifice size 4 Pitot 30

Fire Flow at 20 PSI 5680 gpm Duration 2 hours ☑ Flow Test Date / Time 6/25/21 @ 2:03pm ☐ Hydraulic model

---

Location of hydrant ____

Hydrant Number ____

Distance from Nearest Property Line ____ Size of Hydrant ____ Size of Water main ____

Static PSI ____ Residual PSI ____ Orifice size ____ Pitot ____

Fire Flow at 20 PSI ____ Duration ____ ☐ Flow Test Date / Time ____ ☐ Hydraulic model

☐ (Check box if Simultaneous/ Dual flow test was performed) Combined flow at 20 psi ____

---

Location of hydrant ____

Hydrant Number ____

Distance from Nearest Property Line ____ Size of Hydrant ____ Size of Water main ____

Static PSI ____ Residual PSI ____ Orifice size ____ Pitot ____

Fire Flow at 20 PSI ____ Duration ____ ☐ Flow Test Date / Time ____ ☐ Hydraulic model

☐ (Check box if Simultaneous/ Triple flow test was performed) Combined flow at 20 psi ____

---

Golden State Water Company
Water Purveyor

Signature

562-907-9200
Phone Number

6/30/2021
Date

Operations Engineering Technician
Title

**This Information is Considered Valid for Twenty Four Months**

Fire Department approval of building plans shall be required prior to the issuance of a Building Permit by the jurisdictional Building Department. Any deficiencies in water systems will need to be resolved by the Fire Prevention Division only prior to this department's approval of building plans.

Project Address: 1628 E. 81st Street

# APPENDIX H

# Hydrology and Low Impact Development Report

BRANDOW &
JOHNSTON
EST. 1945

# KIPP Ignite Academy

## 1628 East 81st Street
## Los Angeles, CA 90001

# Hydrology & Low Impact Development Report

July 2, 2020

Prepared for:
**KIPP : LA**
3601 East 1st Street
Los Angeles, CA 90063

Project Architect:
**Berliner Architects**
5976 Washington Blvd.
Culver City, CA 90232

Prepared by:
**Ed Melo, P.E.**
**Brandow & Johnston**
700 South Flower St, Suite 1800
Los Angeles, CA 90017
Tel: (213) 596-4550
Fax: (213) 596-4599

BRANDOW &
JOHNSTON
EST. 1945

# KIPP: IGNITE ACADEMY

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## EXHIBITS

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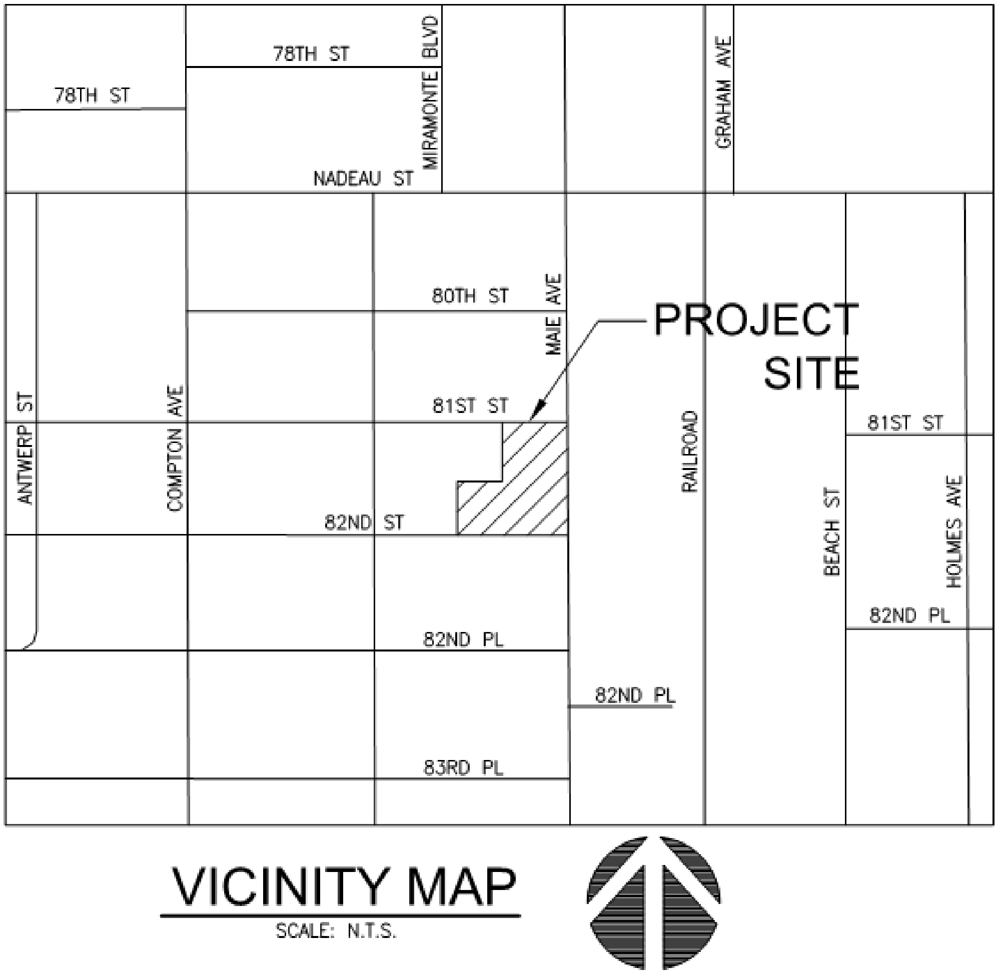
- C102 – Post- Development Hydrology Plan

## Project Vicinity Map



VICINITY MAP

SCALE: N.T.S.

## Project Description

KIPP:LA has retained Berliner Architects and Brandow & Johnston to provide Architectural Engineering services for a new charter school to be located at 1628 East 81st Street, Los Angeles, CA 90001. Approximately 1.03 acres of land between 81st Street and 82nd Street will be redeveloped. The project entails constructing a 2-story building with an at-grade parking lot and landscape area.

## Hydrology

Our hydrologic analysis and study was prepared in accordance with the 2006 Los Angeles County Hydrology Manual (Modified Rational Method). Our analysis is based on a 25-year frequency design storm.

The project site is currently fully developed and is considered to be 99% impervious. It is currently occupied by a paved parking, which will all be removed prior to construction. Approximately 2.48 cfs of stormwater runoff is generated by the project site during the 25-year storm event in a 24-hour period. Stormwater drainage appears to flow to an existing catch basin at the South East corner of the lot, which then curb drains to Maie Avenue.

The building takes up a majority of the project area, then the paved drive aisle, and then the landscaped areas. All proposed building downspouts will connect to the proposed storm drain system. Surface runoff will drain to various site catch basins connected to the proposed storm drain system. All of the storm water collected in the storm drain system will be retained by a StormTech Infiltration System. The overflow of the Infiltration system will discharge to 82nd street through a proposed parkway drain.

Based on our hydrologic analysis, the total site post-developed stormwater run-off for a 25-year storm event is approximately 2.50 cfs and will produce 14,129 cu-ft of runoff volume in a 24-hour period. This run-off will flow to the new infiltration structure. Per the Percolation Testing Report prepared by Twinning, Inc. dated November 15, 2018 (Project No. 18870.1), infiltration is feasible for the project. An average infiltration rate of 2.64 in/hr was determined after the field measured percolation rates have been adjusted to infiltration rates in accordance with the County of Los Angeles Department of Public Works GMED Guidelines for Design, Investigation and Reporting Low Impact Development Stormwater Infiltration on boring B-3 in the report. The infiltration structure will be outfitted with a 12-inch outlet sloped at 0.5%. This outlet line will be connected to an overflow pipe draining to 82nd Street through a parkway drain. The parkway drain has a capacity of 2.90 cfs at 2% slope which is greater than the post developed $Q_{25}$ of 2.50 cfs.

**Low Impact Development**

In order to comply with Low Impact Development (LID) standards, the methodology presented in the Los Angeles County Low Impact Development Standards Manual, dated February 2014, will be implemented. Generally, the entirety of the proposed Elementary School's site drainage is diverted to our proposed infiltration system.

The greater volume of runoff produced from a 0.75-inch storm and a design storm with an intensity derived from the 85th percentile isohyetal map is considered as the minimum volume to be mitigated in order to comply with LID. Based on the Los Angeles County 85th Percentile Isohyet Map, the 24-hour rainfall is 0.95 inch. The volume calculated for a 0.75-inch storm is approximately 2,147 cu-ft. The volume calculated for a 0.95-inch storm is approximately 2,719 cu-ft.

The storage volume of the Infiltration system is 2,722 ft$^3$. This meets the required mitigated volume and therefore complies with the Low Impact Development Standard requirements.

To comply with Section 5 of the LID Manual (Source Control Measures) the following source control measures will be implemented:

- Storm Drain Message and Signage (S-1)
- Landscape Irrigation Practices (S-8)
- Building Materials (S-9)

<u>LID Design Calculation Data</u>

Total Area = 1.03 ac
Total Disturbed Area = 1.03 ac
Pervious Area = 0.16 ac
Impervious Area = 0.87 ac

Soil Type 003
50 years Isohyet = 5.60 in
85th Percentile = 0.95 in

Stomwater Quality Design Volume (SWQDv) Calculations:
(See the attached HydroCalc outputs)

- The 0.75-inch, 24 hour rain event – SWQDv = 2,147 ft$^3$
- The 85th percentile, 24 hour rain event – SWQDv = 2,719 ft$^3$

Use SWQDv = 2,719 ft$^3$

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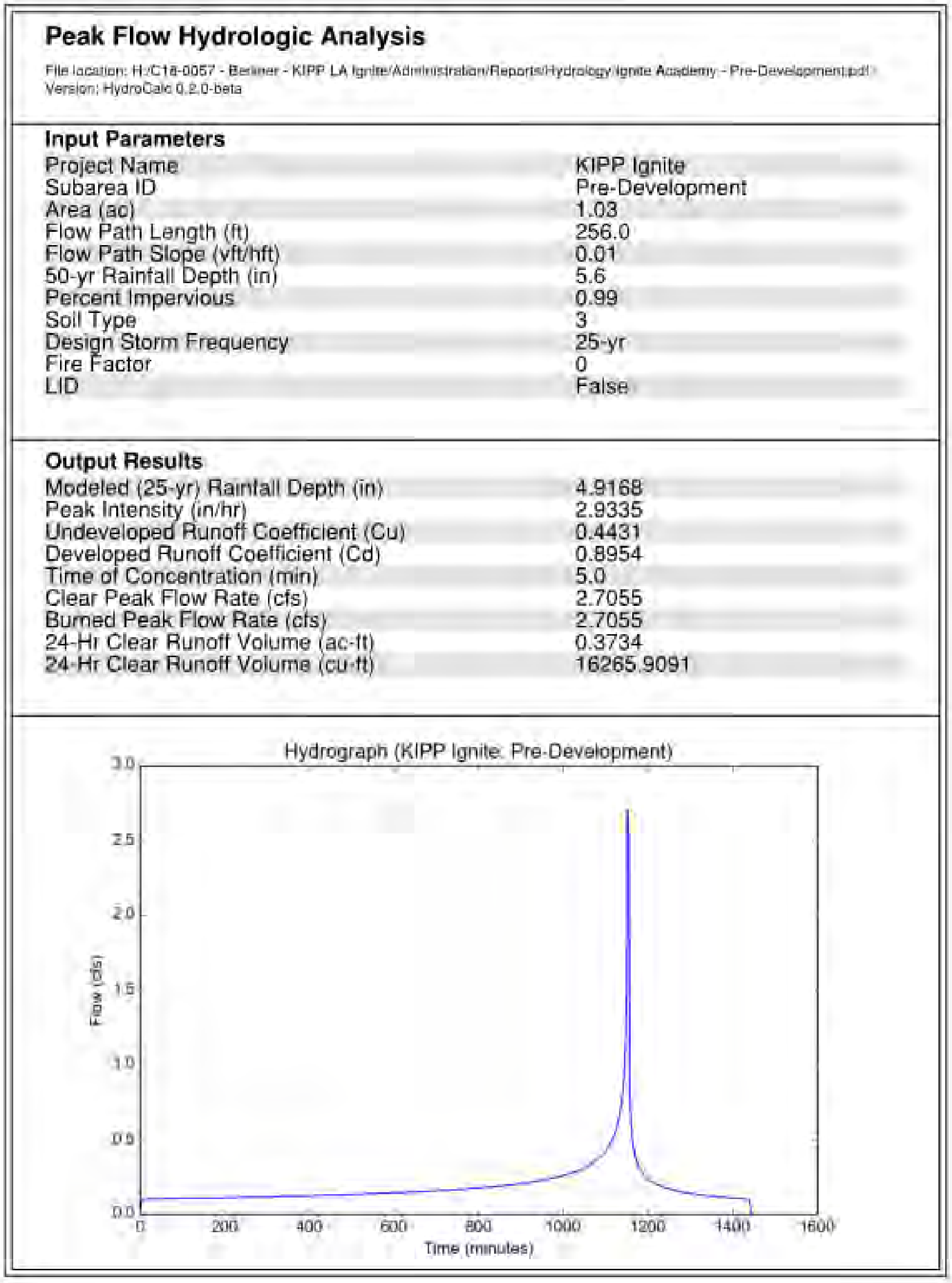
# KIPP Comienza Parking Lot
## *Hydrocalc Output*
## *Pre-Developed Conditions*

### 25 Year Storm



## Peak Flow Hydrologic Analysis

File location: H:/C18-0057 - Berliner - KIPP LA Ignite/Administration/Reports/Hydrology/Ignite Academy - Pre-Development.pdf
Version: HydroCalc 0.2.0-beta

### Input Parameters

| | |
|---|---|
| Project Name | KIPP Ignite |
| Subarea ID | Pre-Development |
| Area (ac) | 1.03 |
| Flow Path Length (ft) | 256.0 |
| Flow Path Slope (vft/hft) | 0.01 |
| 50-yr Rainfall Depth (in) | 5.6 |
| Percent Impervious | 0.99 |
| Soil Type | 3 |
| Design Storm Frequency | 25-yr |
| Fire Factor | 0 |
| LID | False |

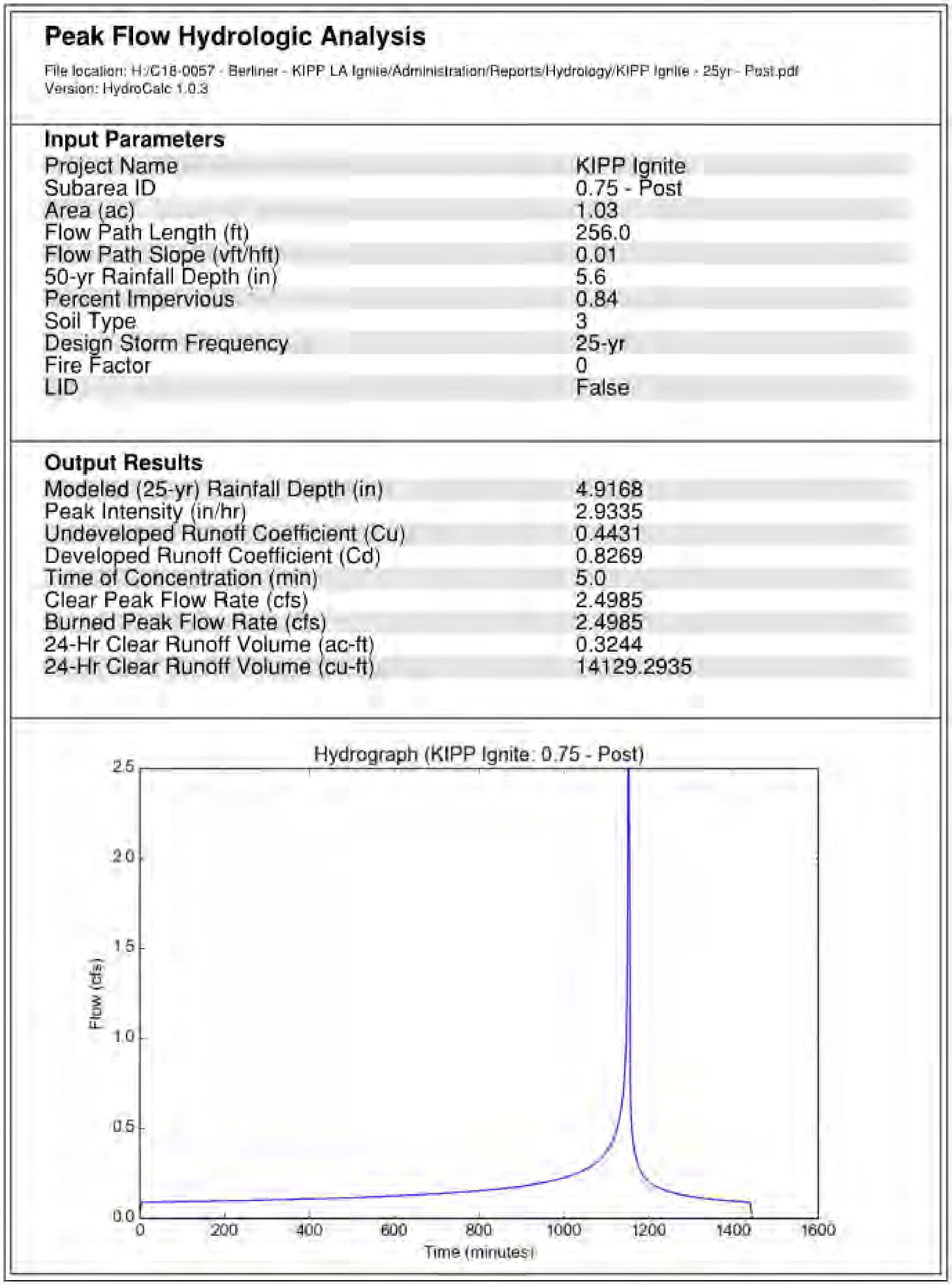
### Output Results

| | |
|---|---|
| Modeled (25-yr) Rainfall Depth (in) | 4.9168 |
| Peak Intensity (in/hr) | 2.9335 |
| Undeveloped Runoff Coefficient (Cu) | 0.4431 |
| Developed Runoff Coefficient (Cd) | 0.8954 |
| Time of Concentration (min) | 5.0 |
| Clear Peak Flow Rate (cfs) | 2.7055 |
| Burned Peak Flow Rate (cfs) | 2.7055 |
| 24-Hr Clear Runoff Volume (ac-ft) | 0.3734 |
| 24-Hr Clear Runoff Volume (cu-ft) | 16265.9091 |

Hydrograph (KIPP Ignite: Pre-Development)

## *Post-Developed Conditions*

25 Year Storm:



### Peak Flow Hydrologic Analysis

File location: H:/C18-0057 - Berliner - KIPP LA Ignite/Administration/Reports/Hydrology/KIPP Ignite - 25yr - Post.pdf
Version: HydroCalc 1.0.3

**Input Parameters**

| | |
|---|---|
| Project Name | KIPP Ignite |
| Subarea ID | 0.75 - Post |
| Area (ac) | 1.03 |
| Flow Path Length (ft) | 256.0 |
| Flow Path Slope (vft/hft) | 0.01 |
| 50-yr Rainfall Depth (in) | 5.6 |
| Percent Impervious | 0.84 |
| Soil Type | 3 |
| Design Storm Frequency | 25-yr |
| Fire Factor | 0 |
| LID | False |

**Output Results**

| | |
|---|---|
| Modeled (25-yr) Rainfall Depth (in) | 4.9168 |
| Peak Intensity (in/hr) | 2.9335 |
| Undeveloped Runoff Coefficient (Cu) | 0.4431 |
| Developed Runoff Coefficient (Cd) | 0.8269 |
| Time of Concentration (min) | 5.0 |
| Clear Peak Flow Rate (cfs) | 2.4985 |
| Burned Peak Flow Rate (cfs) | 2.4985 |
| 24-Hr Clear Runoff Volume (ac-ft) | 0.3244 |
| 24-Hr Clear Runoff Volume (cu-ft) | 14129.2935 |

Hydrograph (KIPP Ignite: 0.75 - Post)

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# *HydroCalc Output Summary*

| PRE-DEVELOPED HYDROLOGY TABLE | | | | | | | |
|---|---|---|---|---|---|---|---|
| AREA (AC.) | PERV. AREA | IMPERV. AREA | % IMPERV. | SOIL TYPE | FLOW PATH LENGTH (FT) | FLOW PATH SLOPE | DPA ZONE |
| 1.03 | 0.01 | 0.99 | 99% | 3 | 256 | 0.01 | 7 |

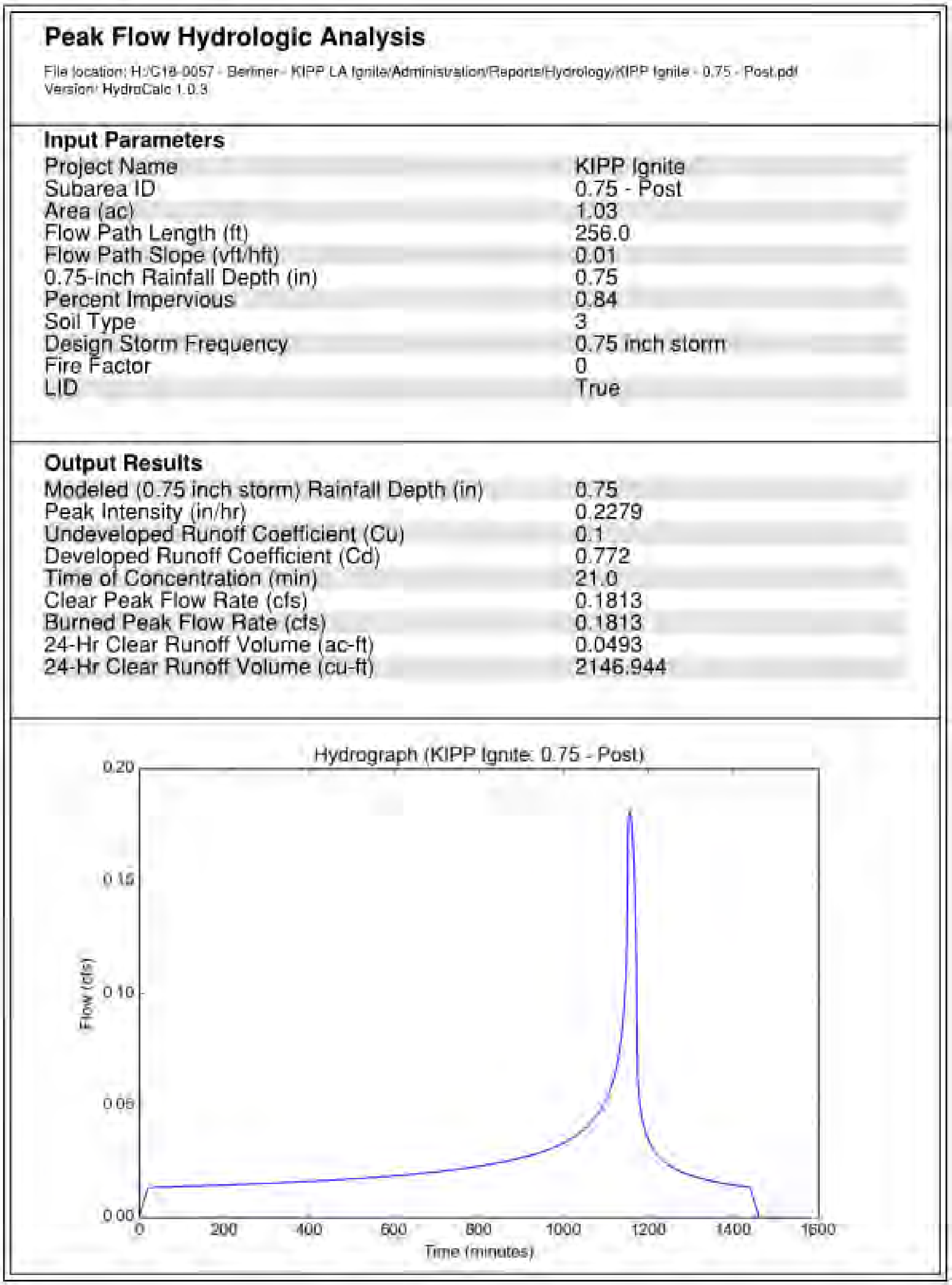
| STORM EVENT | RAINFALL ISOHYET | Tc (min) | Q (CFS) | VOLUME (cu-ft) |
|---|---|---|---|---|
| 25-year | 5.65 | 5 | 2.71 | 16,266 |

| POST-DEVELOPED HYDROLOGY TABLE | | | | | | | |
|---|---|---|---|---|---|---|---|
| AREA (AC.) | PERV. AREA | IMPERV. AREA | % IMPERV. | SOIL TYPE | FLOW PATH LENGTH (FT) | FLOW PATH SLOPE | DPA ZONE |
| 1.03 | 0.16 | 0.87 | 84% | 3 | 256 | 0.01 | 7 |

| STORM EVENT | RAINFALL ISOHYET | Tc (min) | Q (CFS) | VOLUME (cu-ft) |
|---|---|---|---|---|
| 25-year | 5.6 | 5 | 2.50 | 14,129 |

## *Low Impact Development Design Criteria*

0.75 inch storm:
Post-Construction



### Peak Flow Hydrologic Analysis

File location: H:/C18-0057 - Berliner - KIPP LA Ignite/Administration/Reports/Hydrology/KIPP Ignite - 0.75 - Post.pdf
Version: HydroCalc 1.0.3

**Input Parameters**

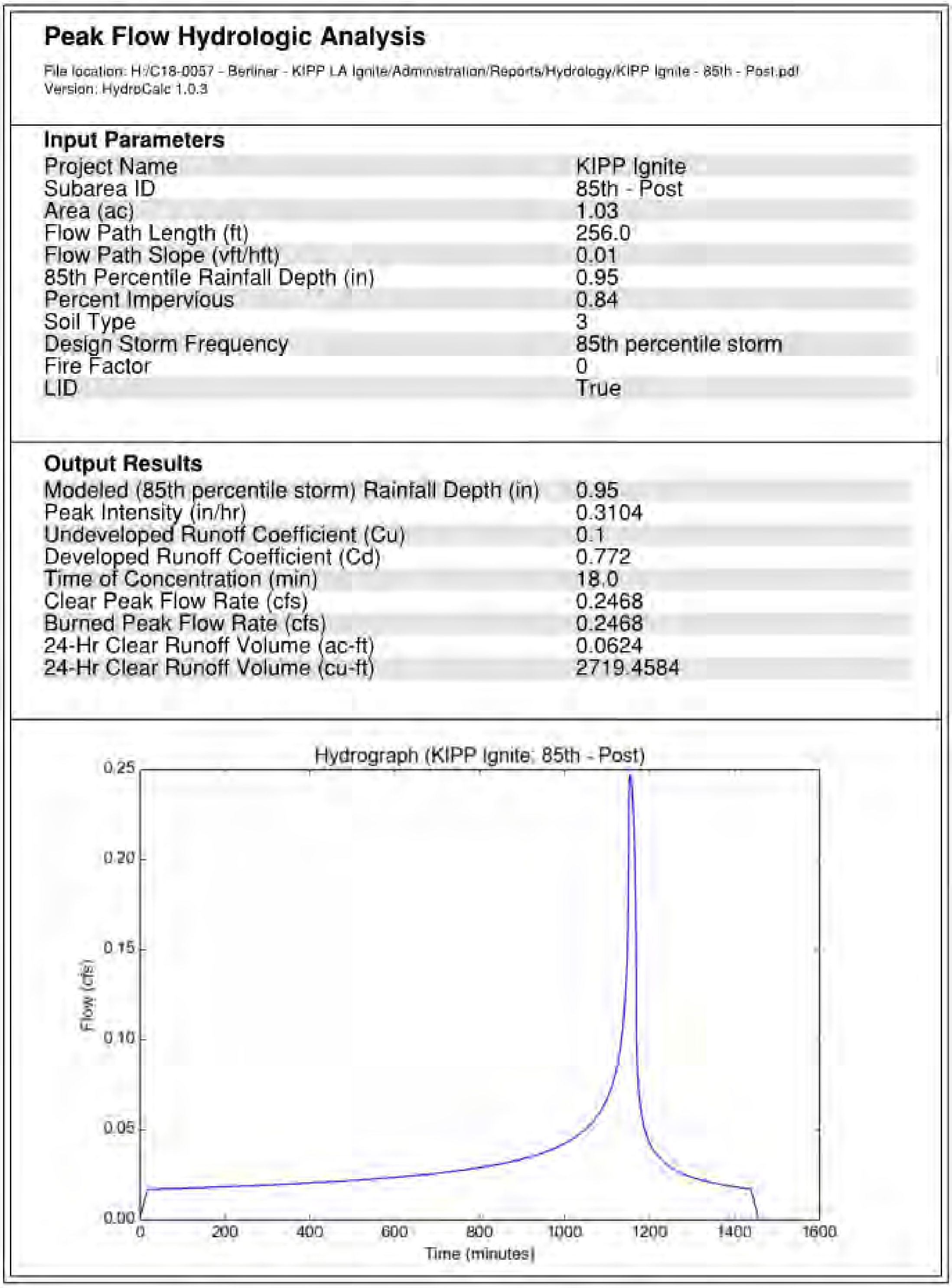
| | |
|---|---|
| Project Name | KIPP Ignite |
| Subarea ID | 0.75 - Post |
| Area (ac) | 1.03 |
| Flow Path Length (ft) | 256.0 |
| Flow Path Slope (vft/hft) | 0.01 |
| 0.75-inch Rainfall Depth (in) | 0.75 |
| Percent Impervious | 0.84 |
| Soil Type | 3 |
| Design Storm Frequency | 0.75 inch storm |
| Fire Factor | 0 |
| LID | True |

**Output Results**

| | |
|---|---|
| Modeled (0.75 inch storm) Rainfall Depth (in) | 0.75 |
| Peak Intensity (in/hr) | 0.2279 |
| Undeveloped Runoff Coefficient (Cu) | 0.1 |
| Developed Runoff Coefficient (Cd) | 0.772 |
| Time of Concentration (min) | 21.0 |
| Clear Peak Flow Rate (cfs) | 0.1813 |
| Burned Peak Flow Rate (cfs) | 0.1813 |
| 24-Hr Clear Runoff Volume (ac-ft) | 0.0493 |
| 24-Hr Clear Runoff Volume (cu-ft) | 2146.944 |

# 0.95 inch storm (85$^{TH}$ Percentile)

Post-Construction



## Peak Flow Hydrologic Analysis

File location: H:/C18-0057 - Berliner - KIPP LA Ignite/Administration/Reports/Hydrology/KIPP Ignite - 85th - Post.pdf
Version: HydroCalc 1.0.3

### Input Parameters

| | |
|---|---|
| Project Name | KIPP Ignite |
| Subarea ID | 85th - Post |
| Area (ac) | 1.03 |
| Flow Path Length (ft) | 256.0 |
| Flow Path Slope (vft/hft) | 0.01 |
| 85th Percentile Rainfall Depth (in) | 0.95 |
| Percent Impervious | 0.84 |
| Soil Type | 3 |
| Design Storm Frequency | 85th percentile storm |
| Fire Factor | 0 |
| LID | True |

### Output Results

| | |
|---|---|
| Modeled (85th percentile storm) Rainfall Depth (in) | 0.95 |
| Peak Intensity (in/hr) | 0.3104 |
| Undeveloped Runoff Coefficient (Cu) | 0.1 |
| Developed Runoff Coefficient (Cd) | 0.772 |
| Time of Concentration (min) | 18.0 |
| Clear Peak Flow Rate (cfs) | 0.2468 |
| Burned Peak Flow Rate (cfs) | 0.2468 |
| 24-Hr Clear Runoff Volume (ac-ft) | 0.0624 |
| 24-Hr Clear Runoff Volume (cu-ft) | 2719.4584 |

## *HydroCalc Output Summary*

| | **0.75-inch storm** | **0.90-inch storm (85th Percentile)** |
|---|---|---|
| **Tc (min)** | 21 | 18 |
| **Vol (gal)** | 16,051 | 20,340 |
| **Vol (cf)** | 2,147 | 2,719 |

85th percentile has a greater volume, therefore, 85th percentile storm event will be used for the design volume.

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# ATTACHMENTS

50-Year 24-Hour Isohyet Map – South Gate (1-H1.19)

LACDPW Hydrology Map – 85th Percentile

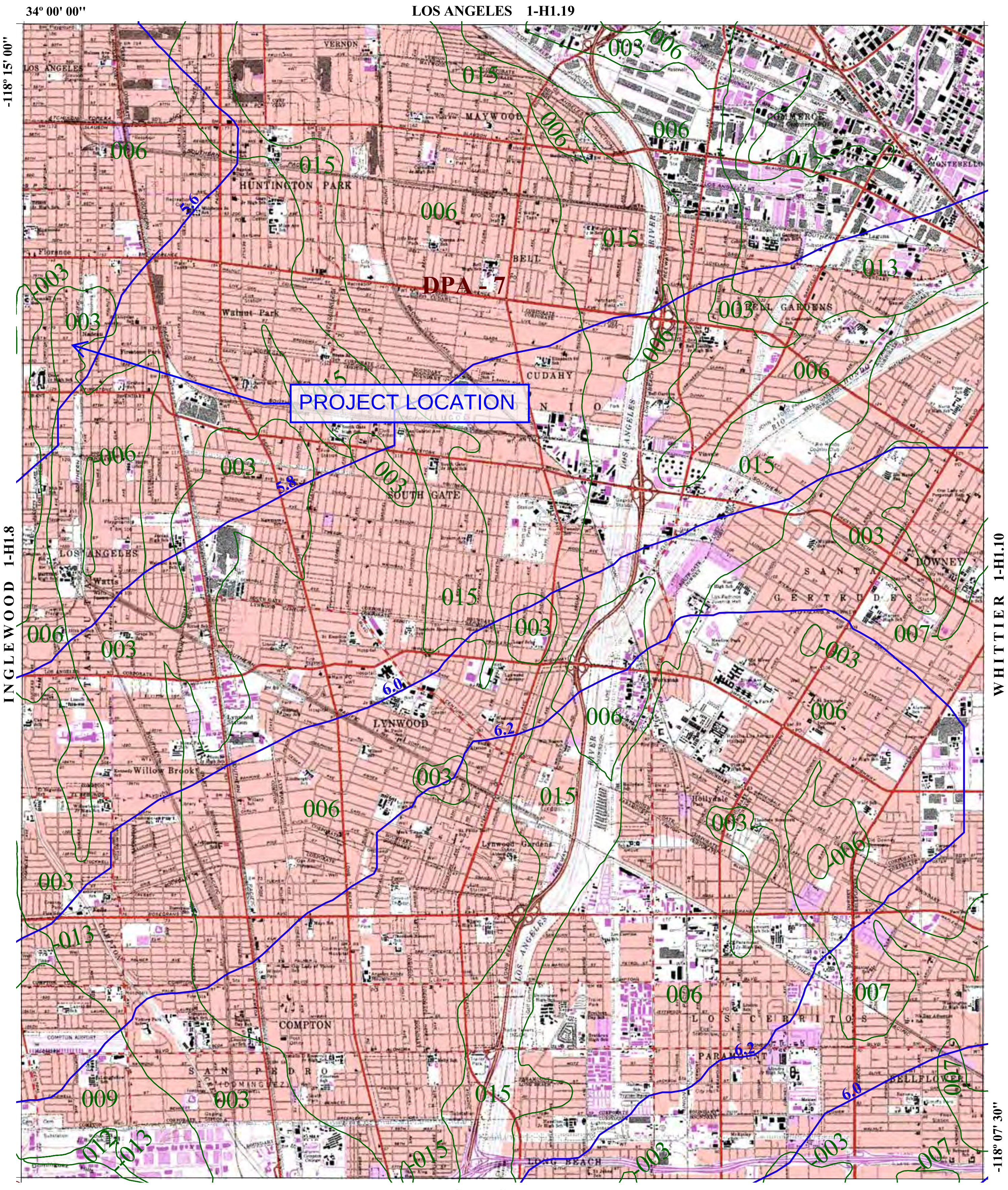
FEMA Flood Zone Determination Plan

Percolation Report Excerpt

Pre-Development Plan

Post-Developed Plan

Pipe Sizing Calculations



N
W E
S

016 SOIL CLASSIFICATION AREA

7.2 INCHES OF RAINFALL

DPA - 6 DEBRIS POTENTIAL AREA

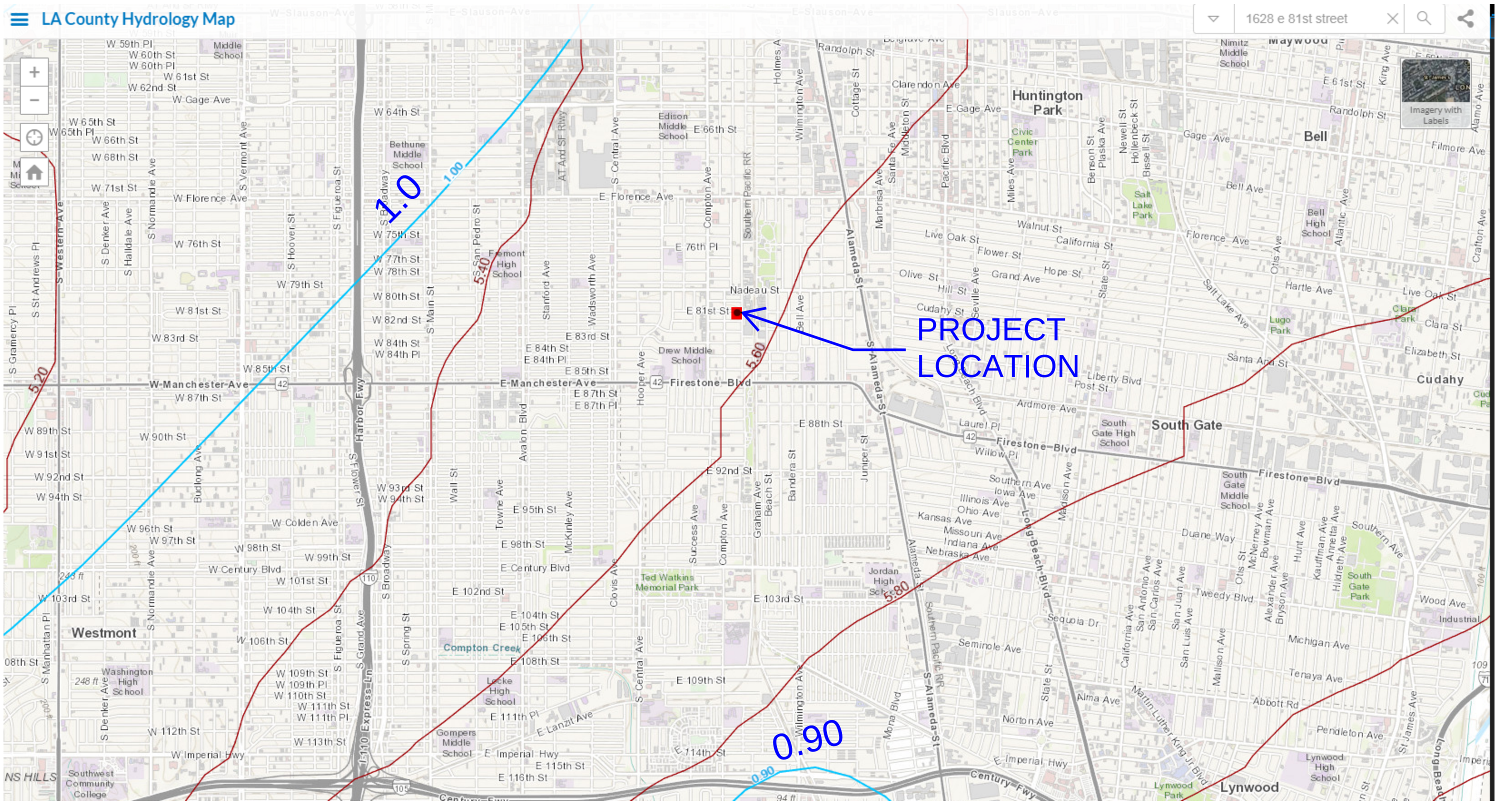
1 0 1 2 Miles

**25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878**
**10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714**

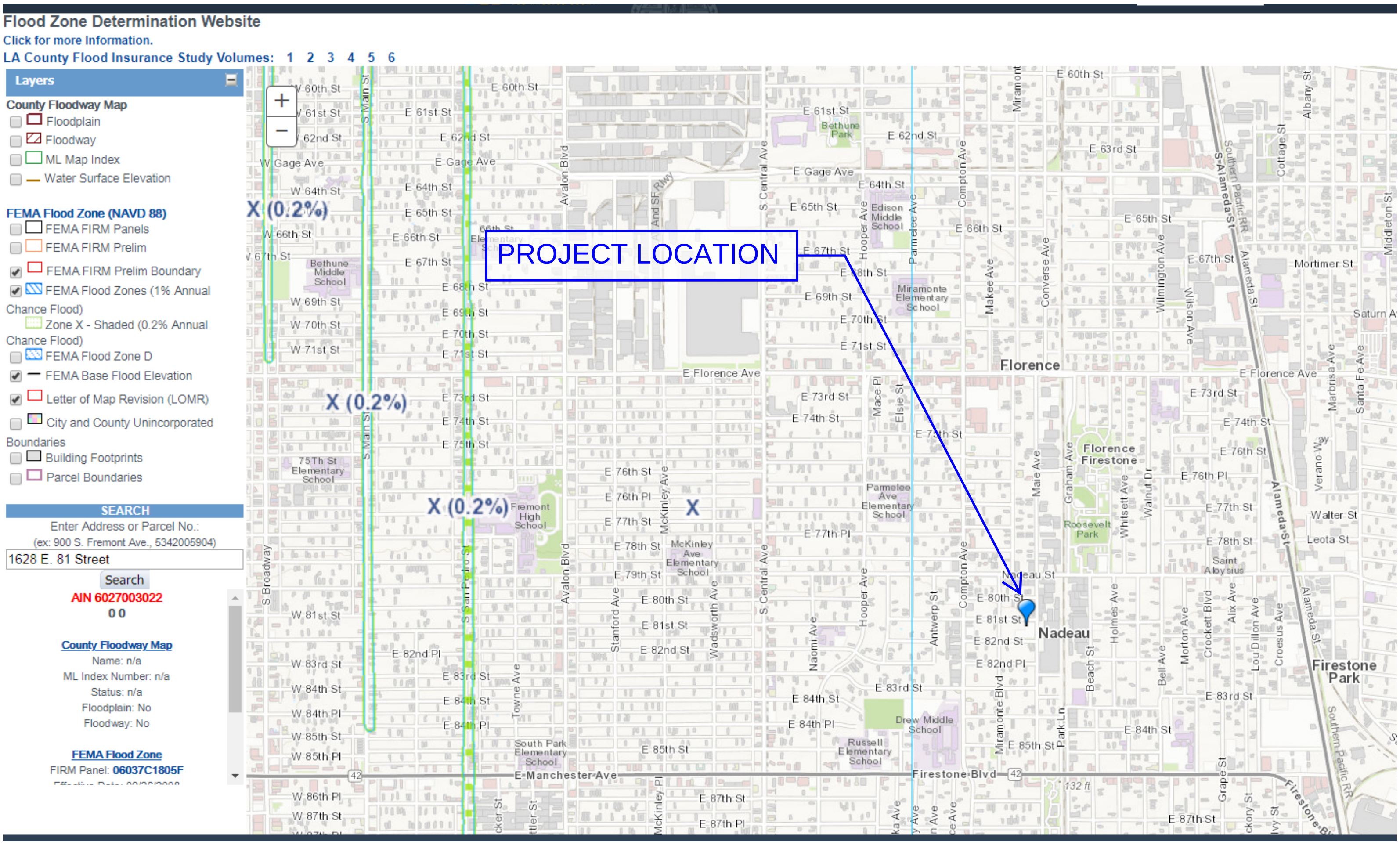
# SOUTH GATE
# 50-YEAR 24-HOUR ISOHYET

**1-H1.9**

# LACDPW Hydrology Map - 85th Percentile



# FEMA Flood Zone Determination Plan



**Flood Zone Determination Website**

Click for more Information.

LA County Flood Insurance Study Volumes: 1 2 3 4 5 6

**Layers**

**County Floodway Map**

- ☐ Floodplain
- ☐ Floodway
- ☐ ML Map Index
- ☐ Water Surface Elevation

**FEMA Flood Zone (NAVD 88)**

- ☐ FEMA FIRM Panels
- ☐ FEMA FIRM Prelim
- ☑ FEMA FIRM Prelim Boundary
- ☑ FEMA Flood Zones (1% Annual Chance Flood)
  - Zone X - Shaded (0.2% Annual Chance Flood)
- ☐ FEMA Flood Zone D
- ☑ FEMA Base Flood Elevation
- ☑ Letter of Map Revision (LOMR)
- ☐ City and County Unincorporated Boundaries
- ☐ Building Footprints
- ☐ Parcel Boundaries

**SEARCH**

Enter Address or Parcel No.:
(ex: 900 S. Fremont Ave., 5342005904)

1628 E. 81 Street

Search

**AIN 6027003022**
**0 0**

**County Floodway Map**

Name: n/a
ML Index Number: n/a
Status: n/a
Floodplain: No
Floodway: No

**FEMA Flood Zone**

FIRM Panel: **06037C1805F**

# Appendix C
## Percolation Testing

One percolation boring was excavated at the project site as shown on Figure 2 – Site Location and Boring Location Map. The boring was advanced using an 8-inch hollow-stem auger to approximately 5 and 10 feet below existing ground surface. Percolation testing was performed on October 2, 2018 in general conformance with the County of Los Angeles requirements.

The purpose of the tests was to evaluate the infiltration rates of subgrade soils. At the completion of the boring excavation, a 3-inch diameter slotted PVC pipe was inserted in the borehole. The borehole was presoaked prior to testing. After the completion of presoaking, the borings were filled with water to a minimum depth of 12 inches above the bottom of excavation. Measurements of the distance from the top of the hole to the top of the water were taken every 2 minutes. The procedure was replicated for a total of 8 readings or until the results were consistently within ten percent of each other. Upon completion of the borings and testing, the boreholes were backfilled with soil from the cuttings as noted in the Log of Borings.

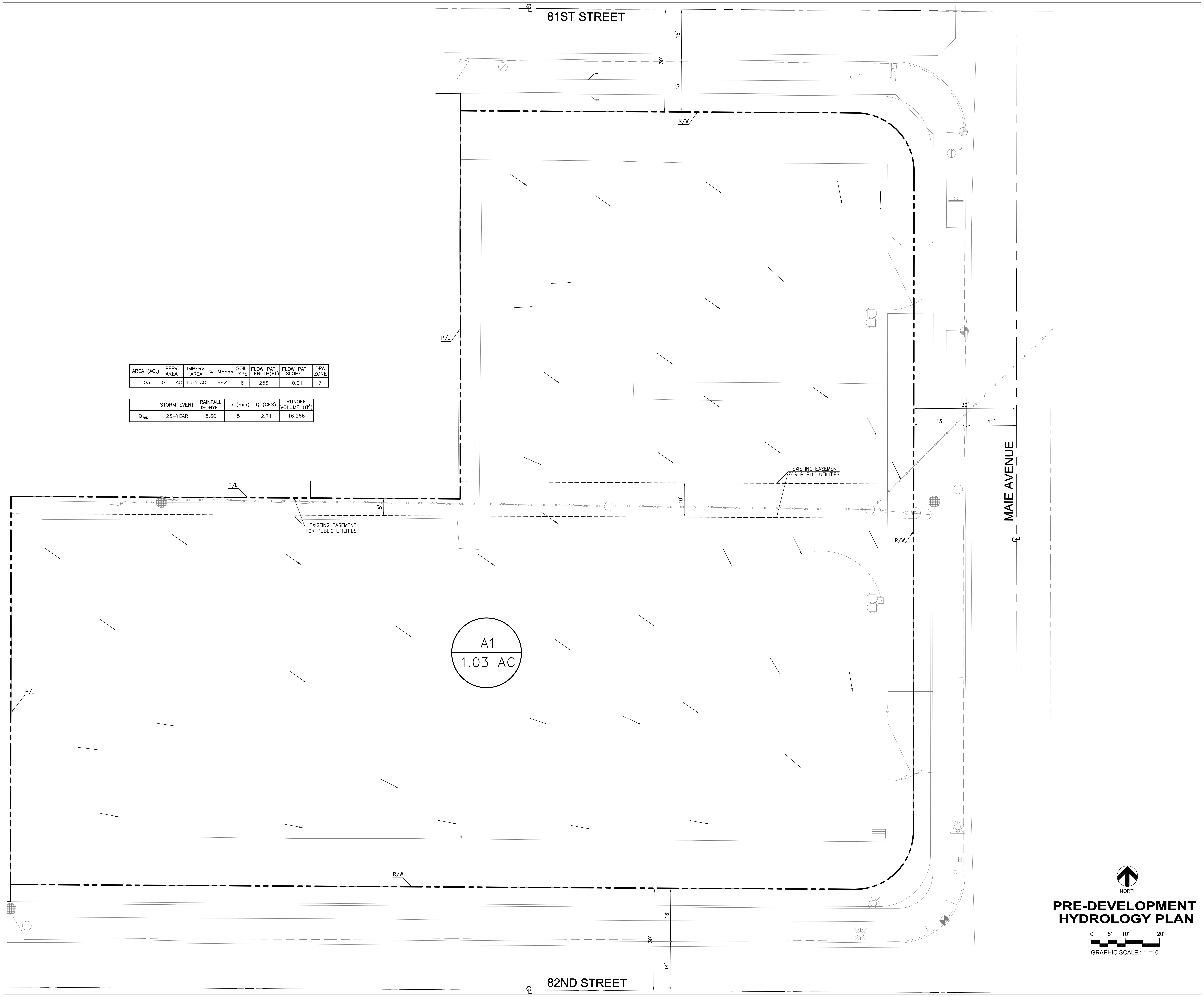
The infiltration rate was calculated by dividing the measured percolation rate by a reduction factor to account for discharge of water from the sides of the boring (i.e., non-vertical flow) as described in the referenced manual. The following formula was used:

Percolation Rate = ($\Delta d$ / [Time Interval/60 minutes])
Reduction Factor ($R_f$) = ($2d_1 / D - \Delta d/D$) + 1
Infiltration Rate = (Percolation Rate) / (Reduction Factor)

The lowest reading was used to determine the infiltration rate. A summary of test results is presented in Table C-1 and the detailed test data is attached to this appendix.

**Table C-1 - Summary of Percolation Test Results**

| Test Location | Depth of Test Hole (ft.) | Design Infiltration Rate (in/hr) |
|---|---|---|
| B-3 | 5 | 2.64 |
| B-5 | 10 | 3.34 |



| AREA (AC.) | PERV. AREA | IMPERV. AREA | % IMPERV. | SOIL TYPE | FLOW PATH LENGTH(FT) | FLOW PATH SLOPE | DPA ZONE |
|---|---|---|---|---|---|---|---|
| 1.03 | 0.00 AC | 1.03 AC | 99% | 6 | 256 | 0.01 | 7 |

| | STORM EVENT | RAINFALL ISOHYET | Tc (min) | Q (CFS) | RUNOFF VOLUME ($ft^3$) |
|---|---|---|---|---|---|
| $Q_{PRE}$ | 25–YEAR | 5.60 | 5 | 2.71 | 16,266 |

# PRE-DEVELOPMENT HYDROLOGY PLAN

DATE PRINTED:

**PROJECT**

1628 EAST 81ST STREET
LOS ANGELES, CA 90001

APN:
6027-003-022, -023, -024, -025, -027, -028,
-029, -030, -031

**CLIENT**

**KIPP : LA**
3601 EAST FIRST STREET
LOS ANGELES, CA 90017

**ARCHITECT**

BERLINER
ARCHITECTS

5976 WASHINGTON BLVD
CULVER CITY, CA 90232
TEL 310.838.2100
EMAIL richardb@berliner-architects.com

**CONSULTANTS**

**STRUCTURAL ENGINEER**
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LOS ANGELES, CA 90017
213-310-8520

**MEP ENGINEER**
DESIGN WEST ENGINEERING
275 WEST HOSPITALITY LANE, SUITE 100
SAN BERNARDINO, CA 92408
909-890-3700

**CIVIL ENGINEER**
BRANDOW & JOHNSTON
700 SOUTH FLOWER ST. SUITE 1800
LOS ANGELES, CA 90017
213-596-4500

**LANDSCAPE ARCHITECT**
OFFICE OF THE DESIGNED LANDSCAPE
1131 SUPERBA AVENUE
VENICE, CA 90291
213-364-7397

**ISSUES**

| | SUBMITTAL | DATE |
|---|---|---|
| | SCHEMATIC DESIGN | 07/01/2020 |
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| | | |

**JOB NUMBER**

PREDEVELOPMENT
HYDROLOGY PLAN

C101

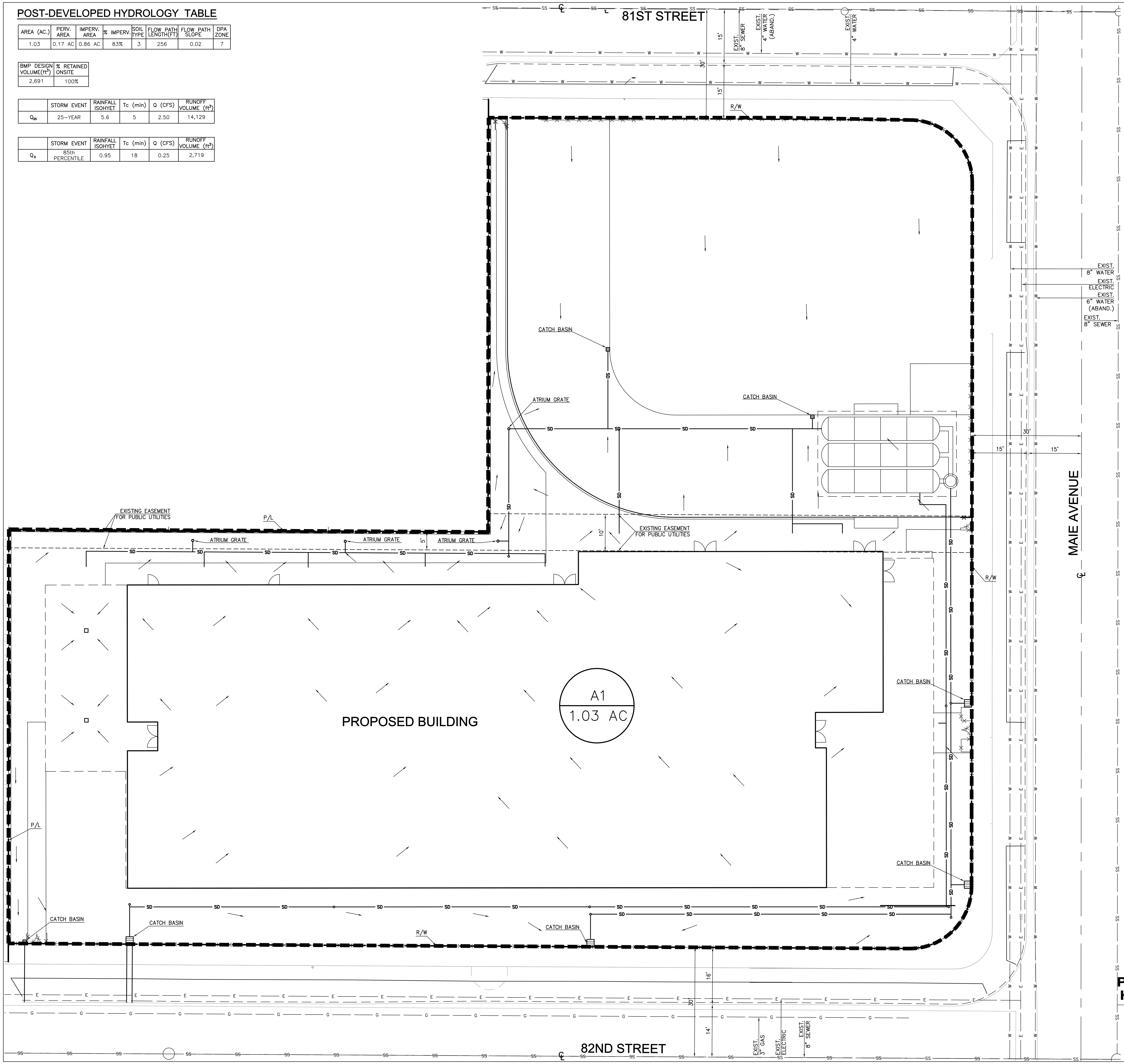
## POST-DEVELOPED HYDROLOGY TABLE

| AREA (AC.) | PERV. AREA | IMPERV. AREA | % IMPERV. | SOIL TYPE | FLOW PATH LENGTH(FT) | FLOW PATH SLOPE | DPA ZONE |
|---|---|---|---|---|---|---|---|
| 1.03 | 0.17 AC | 0.86 AC | 83% | 3 | 256 | 0.02 | 7 |

| BMP DESIGN VOLUME($ft^3$) | % RETAINED ONSITE |
|---|---|
| 2,691 | 100% |

| | STORM EVENT | RAINFALL ISOHYET | Tc (min) | Q (CFS) | RUNOFF VOLUME ($ft^3$) |
|---|---|---|---|---|---|
| $Q_{25}$ | 25–YEAR | 5.6 | 5 | 2.50 | 14,129 |

| | STORM EVENT | RAINFALL ISOHYET | Tc (min) | Q (CFS) | RUNOFF VOLUME ($ft^3$) |
|---|---|---|---|---|---|
| $Q_D$ | 85th PERCENTILE | 0.95 | 18 | 0.25 | 2,719 |



## POST DEVELOPMENT HYRDROLOGY PLAN

NORTH

0' 5' 10' 20'

GRAPHIC SCALE : 1"=10'

DATE PRINTED:

**PROJECT**

1628 EAST 81ST STREET
LOS ANGELES, CA 90001

APN:
6027-003-022, -023, -024, -025, -027, -028, -029, -030, -031

**CLIENT**

**KIPP : LA**
3601 EAST FIRST STREET
LOS ANGELES, CA 90017

**ARCHITECT**

BERLINER
ARCHITECTS

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**CONSULTANTS**

**STRUCTURAL ENGINEER**
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**MEP ENGINEER**
DESIGN WEST ENGINEERING
275 WEST HOSPITALITY LANE, SUITE 100
SAN BERNARDINO, CA 92408
909-890-3700

**CIVIL ENGINEER**
BRANDOW & JOHNSTON
700 SOUTH FLOWER ST. SUITE 1800
LOS ANGELES, CA 90017
213-596-4500

**LANDSCAPE ARCHITECT**
OFFICE OF THE DESIGNED LANDSCAPE
1131 SUPERBA AVENUE
VENICE, CA 90291
213-364-7397

**ISSUES**

| | SUBMITTAL | DATE |
|---|---|---|
| | SCHEMATIC DESIGN | 07/01/2020 |

**JOB NUMBER**

POST DEVELOPMENT
HYRDROLOGY PLAN

C102

# 12" Pipe Outflow

## Project Description

| | | |
|---|---|---|
| Friction Method | Manning Formula | |
| Solve For | Discharge | |

## Input Data

| | | |
|---|---|---|
| Roughness Coefficient | 0.010 | |
| Channel Slope | 0.00500 | ft/ft |
| Normal Depth | 1.00 | ft |
| Diameter | 1.00 | ft |

## Results

| | | |
|---|---|---|
| Discharge | 3.27 | ft³/s |
| Flow Area | 0.79 | ft² |
| Wetted Perimeter | 3.14 | ft |
| Hydraulic Radius | 0.25 | ft |
| Top Width | 0.00 | ft |
| Critical Depth | 0.77 | ft |
| Percent Full | 100.0 | % |
| Critical Slope | 0.00559 | ft/ft |
| Velocity | 4.17 | ft/s |
| Velocity Head | 0.27 | ft |
| Specific Energy | 1.27 | ft |
| Froude Number | 0.00 | |
| Maximum Discharge | 3.52 | ft³/s |
| Discharge Full | 3.27 | ft³/s |
| Slope Full | 0.00500 | ft/ft |
| Flow Type | SubCritical | |

## GVF Input Data

| | | |
|---|---|---|
| Downstream Depth | 0.00 | ft |
| Length | 0.00 | ft |
| Number Of Steps | 0 | |

## GVF Output Data

| | | |
|---|---|---|
| Upstream Depth | 0.00 | ft |
| Profile Description | | |
| Profile Headloss | 0.00 | ft |
| Average End Depth Over Rise | 0.00 | % |
| Normal Depth Over Rise | 100.00 | % |
| Downstream Velocity | Infinity | ft/s |

# 12" Pipe Outflow

## GVF Output Data

| | | |
|---|---|---|
| Upstream Velocity | Infinity | ft/s |
| Normal Depth | 1.00 | ft |
| Critical Depth | 0.77 | ft |
| Channel Slope | 0.00500 | ft/ft |
| Critical Slope | 0.00559 | ft/ft |

# 2' Wide Parkway Drain

## Project Description

| | |
|---|---|
| Friction Method | Manning Formula |
| Solve For | Discharge |

## Input Data

| | | |
|---|---|---|
| Roughness Coefficient | 0.013 | |
| Channel Slope | 0.02000 | ft/ft |
| Normal Depth | 0.33 | ft |
| Height | 0.33 | ft |
| Bottom Width | 2.00 | ft |

## Results

| | | |
|---|---|---|
| Discharge | 2.90 | ft³/s |
| Flow Area | 0.66 | ft² |
| Wetted Perimeter | 4.66 | ft |
| Hydraulic Radius | 0.14 | ft |
| Top Width | 2.00 | ft |
| Critical Depth | 0.40 | ft |
| Percent Full | 100.0 | % |
| Critical Slope | 0.00524 | ft/ft |
| Velocity | 4.39 | ft/s |
| Velocity Head | 0.30 | ft |
| Specific Energy | 0.63 | ft |
| Froude Number | 1.35 | |
| Discharge Full | 2.90 | ft³/s |
| Slope Full | 0.02000 | ft/ft |
| Flow Type | Supercritical | |

## GVF Input Data

| | | |
|---|---|---|
| Downstream Depth | 0.00 | ft |
| Length | 0.00 | ft |
| Number Of Steps | 0 | |

## GVF Output Data

| | | |
|---|---|---|
| Upstream Depth | 0.00 | ft |
| Profile Description | | |
| Profile Headloss | 0.00 | ft |
| Average End Depth Over Rise | 0.00 | % |
| Normal Depth Over Rise | 100.00 | % |
| Downstream Velocity | Infinity | ft/s |

# 2' Wide Parkway Drain

## GVF Output Data

| | | |
|---|---|---|
| Upstream Velocity | Infinity | ft/s |
| Normal Depth | 0.33 | ft |
| Critical Depth | 0.40 | ft |
| Channel Slope | 0.02000 | ft/ft |
| Critical Slope | 0.00524 | ft/ft |

# Transportation Impact Analysis

# APPENDIX I-1

LINSCOTT
LAW &
GREENSPAN
engineers

**Engineers & Planners**
Traffic
Transportation
Parking

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Pasadena
Irvine
San Diego
Woodland Hills

# MEMORANDUM

To: Los Angeles County Public Works
Date: October 1, 2021

From: David S. Shender, P.E.
Jason A. Shender, AICP
Linscott, Law & Greenspan, Engineers
LLG Ref: 5-19-0456-1

Subject: **KIPP Ignite Academy – Transportation Impact Analysis**

This memorandum has been prepared by Linscott, Law & Greenspan, Engineers (LLG) to provide a Transportation Impact Analysis for the proposed KIPP Ignite Academy project (the "Project") located at 1628 E. 81st Street within the Florence-Firestone Community Plan Area and Community Standards District of unincorporated Los Angeles County (the "Project Site"). The Project proposes the development and construction of a new two-story permanent school facility with 24 classrooms, administrative offices, student and staff restrooms, multipurpose room with an integrated serving area, and recreation areas. The Project will accommodate a maximum enrollment of 600 students. Specifically, the Project proposes to serve 360 students in Kindergarten through 4th grade and 240 students in the 5th through 8th grades. The Project Site location and general vicinity are shown in ***Figure 1***. The site plan for the Project is illustrated in ***Figure 2***.

Briefly, the Project will result in a less than significant transportation impact based on the *Los Angeles County Public Works Transportation Impact Analysis Guidelines*[1] (the "TIA Guidelines"). The Project is located within one-half mile of a major transit stop and is located within a High-Quality Transit Area, as determined by the Southern California Association of Governments (SCAG).[2] This memorandum provides additional details regarding the Transportation Impact Analysis prepared for the Project.

## Existing Setting

As noted above, the Project Site is located at 1628 E. 81st Street (Assessor Parcel Nos. 6027-003-022, 6027-003-023, 6027-003-024, 6027-003-025, 6027-003-027, 6027-003-028, 6027-003-029, 6027-003-030, and 6027-003-031) within the Florence-Firestone Community Plan Area and Community Standards District of unincorporated Los Angeles County. The existing Project Site is improved with a surface parking lot and landscaping. The Project Site is generally bound by 81st Street to the north, 82nd Street to the south, single-family residential dwelling units to the west, and Maie Avenue to the east.

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[1] *Los Angeles County Public Works Transportation Impact Analysis Guidelines,* Los Angeles County Public Works, July 2020.
[2] *Connect SoCal*, Southern California Association of Governments, September 2020.

## Project Description

The Project entails the development and construction of a new, two-story permanent school facility with 24 classrooms, administrative offices, student and staff restrooms, multipurpose room with an integrated serving area, and recreation areas. The Project will accommodate a maximum enrollment of 600 students. Specifically, the Project proposes to serve 360 students in Kindergarten through 4th grade and 240 students in the 5th through 8th grades. The Project proposes to provide 53 parking spaces within a subterranean parking garage. Construction and occupancy of the Project is proposed to be completed by the year 2022.

As shown on *Figure 2*, vehicular access to the Project's drop-off and pick-up area will be provided via one inbound-only driveway along the south side of 81st Street and one outbound-only driveway along the west side of Maie Avenue. Vehicular access to the Project's subterranean parking garage will be provided via one driveway along the north side of 82nd Street. The parking plan for the Project is illustrated in ***Figure 3***.

## Project Trip Generation

In conjunction with the Transportation Impact Analysis and pertinent County guidelines for same, a vehicular trip generation forecast has been prepared using trip rates provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*.[3] The following trip generation rates were used to forecast the traffic volumes expected to be generated by the Project land use components:

- Charter Elementary School: ITE Land Use Code 520 (Elementary School) trip generation average rates were used to forecast the traffic volumes expected to be generated by the charter elementary school component of the Project.

- Charter Middle School: ITE Land Use Code 522 (Middle School/Junior High School) trip generation average rates were used to forecast the traffic volumes expected to be generated by the charter middle school component of the Project.

While it is anticipated that some students and employees will utilize public transportation for travel to and from the Project Site, a transit adjustment was not made to provide a conservative forecast of the Project's trip generation.

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[3] Institute of Transportation Engineers, *Trip Generation Manual*, 10th Edition, Washington, D.C., 2017.

***Table 1*** attached to this memorandum provides the trip generation forecast for the Project. As shown in *Table 1*, the Project on a typical weekday is forecast to result in 1,191 net new daily trips (e.g., 596 inbound trips, 595 outbound trips), 380 net new AM peak hour trips (205 inbound trips and 175 outbound trips), and 102 net new PM peak hour trips (49 inbound trips and 53 outbound trips).

## Vehicle Miles Traveled Analysis

The State of California Governor's Office of Planning and Research (OPR) issued proposed updates to the CEQA Guidelines in November 2017 and an accompanying technical advisory guidance in April 2018 (*OPR Technical Advisory*) that amends the Appendix G question for transportation impacts to delete reference to vehicle delay and level of service and instead refer to Section 15064.3, subdivision (b)(1) of the CEQA Guidelines asking if the project will result in a substantial increase in vehicle miles traveled (VMT). Section 15064.3, subdivision (b)(1) states the following:

- Development Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be considered to have a less than significant transportation impact.

The California Natural Resources Agency certified and adopted the CEQA Guidelines in December 2018, which are now in effect. Accordingly, Los Angeles County Public Works (LACPW) has adopted significance criteria for transportation impacts based on VMT for land use projects and plans in accordance with the amended Appendix G question:

- For a development project, would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?

For development projects, the intent of this question is to assess whether a proposed project or plan adequately reduces total VMT. LACPW provides the following guidance regarding screening and impact criteria to address this question. The following screening criteria and impact criteria are only meant to serve as guidance for projects to determine whether a Transportation Impact Analysis should be performed, and the criteria to determine if a project generates a significant transportation impact. The criteria shall be determined on a project-by project basis as approved by LACPW.

*Proximity to Transit Based Screening Criteria*

Per Section 3.1.2.3 of the TIA Guidelines, if a project is located near a major transit stop or high-quality transit corridor, the following question should be answered:

- Is the project located within a one-half mile radius of a major transit stop or an existing stop along a high-quality transit corridor?

Per the California Public Resources Code Section 21064.3, a Major Transit Stop is defined as a site containing an existing rail or bus rapid transit station. The Project is located within a 0.42-mile radius from the Los Angeles County Metropolitan Transportation Authority (Metro) Firestone Station. The Firestone Station is served by the Metro A Line (Blue), a light rail line that provides northbound and southbound service from Downtown Los Angeles to Long Beach. A radius map depicting the locations of the Project Site and Firestone Station is shown in ***Figure 4***. A route map and schedule for the Metro A Line (Blue) is provided in ***Appendix A***.

According to the TIA Guidelines, if the answer to the question above is yes, then the following subsequent questions should be considered. If the answer to all four questions is no, further analysis is not required, and a less than significant determination can be made.

- Does the project have a Floor Area Ratio less than 0.75?

The Project's overall lot area is 44,866 square feet. Per Chapter 22.04.050, Section E of the County Code, the first floor of the building provides 18,281 square feet of floor area and the second floor of the building provides 16,423 square feet of gross floor area. The overall gross floor area of the building is 34,704 square feet, which results in a Floor Area Ratio (FAR) of 0.77.

- Does the project provide more parking than required by the County Code?

Per Table 22.112.060-A of the County Code, the parking requirements for the Project are shown in ***Table 2*** below.

**Table 2**
**County Code Parking Calculation**

| Use | Units | Quantity | Parking Rate | Required Spaces |
|---|---|---|---|---|
| School | Classrooms | 24 | 1 space per classroom | 24 |
| Largest Assembly Space | Occupants | 155 | 1 space per 5 occupants | 31 |
| **Subtotal Required Parking Spaces** | | | | **55** |
| Bicycle Parking Reduction | | | | -2 |
| **TOTAL REQUIRED PARKING SPACES** | | | | **53** |

Per Table 22.112.100-A of the County Code, the bicycle parking requirements for the Project are shown in ***Table 3*** below.

**Table 3**
**County Code Bicycle Parking Calculation**

| Type | Units | Quantity | Parking Rate | Required Spaces |
|---|---|---|---|---|
| Short-Term | Classrooms | 24 | 4 spaces per classroom | 96 |
| Short-Term | Classrooms | 4 | 2 spaces per car parking spaces reduced | 4 |
| Long-Term | Classrooms | 24 | 1 space per 10 classrooms | 3 |

As summarized in *Table 2* above, prior to consideration of adjustments related to bicycle parking, the Project is required to provide 55 vehicular parking spaces. Additionally, as summarized in *Table 3* above, the Project is required to provide 96 short-term bicycle parking spaces and three long-term bicycle parking spaces. The Project will provide a total of 100 short-term bicycle parking spaces and three long-term bicycle parking spaces. As the Project is providing more than the minimum number of required bicycle parking spaces, one vehicle parking space can be removed for every additional two bicycle parking spaces provided. Therefore, with consideration of the adjustment due to the excess bicycle spaces provide, the Project is required to provide a total of 53 vehicular parking spaces. The Project proposes to provide 53 parking spaces within an onsite subterranean parking garage. Therefore, the Project will not provide more parking than required by the County Code.

- Is the project inconsistent with the SCAG Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS)?

The 2020-2045 SCAG RTP/SCS entitled *Connect SoCal,* was adopted by SCAG in September 2020. "*Connect SoCal* is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. It charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies and between the people whose collaboration can improve the quality of life for Southern Californians."

The Project is consistent with the SCAG RTP/SCS. *Connect SoCal* prioritizes growth near destinations and mobility options that facilitate multimodal access to work, educational and other destinations. Additionally, *Connect SoCal* encourages infill development, and development in Priority Growth Areas, such as High-Quality Transit Areas. As the Project is an infill development located within one-half mile of a Major Transit Stop, will facilitate multimodal transportation by providing the number of parking spaces required by County Code (though not more) and abundant bicycle parking facilities onsite, and is located within an area with excellent pedestrian infrastructure, the Project is consistent with SCAG's greenhouse gas reduction goals, and the overall goals of *Connect SoCal*. Chapter 3 of *Connect SoCal* provides the goals and visions of the plan. Relevant references from *Connect SoCal* are attached in ***Appendix B***.

Additionally, per communication with LACPW, consistency with the General Plan must be shown to show consistency with the SCAG RTP/SCS. The Project's Conditional Use Permit (CUP) Burden of Proof (BOP) Statement provides a detailed analysis of the Project's consistency with the General Plan. The CUP BOP Statement prepared by Envicom is attached in ***Appendix C***. As stated in the CUP BOP Statement, the Project is consistent with the goals of the General Plan, as it creates opportunities for infill development, will not adversely affect the health, peace, comfort, or welfare of persons residing or working in the surrounding area, is located on a site that is adequate in shape and size, and is adequately served by the local transportation network.

- Does the project replace residential units set aside for lower income households with a smaller number of market-rate residential units?

As noted above, the existing Project Site is currently improved with a surface parking lot and landscaping. The Project Site was previously improved with an industrial use and did not have a residential component with units set aside for lower income households. The Project does not include a residential component and will therefore not replace residential units set aside for lower income households with a smaller number of market-rate residential units.

As the answer is no to the four questions above, no further analysis is required, and the Project will result in a less than significant transportation impact.

## Conclusion

This memorandum has been prepared to demonstrate that the proposed KIPP Ignite Academy project located at 1628 E. 81st Street within the Florence-Firestone Community Plan Area and Community Standards District of unincorporated Los Angeles County screens out from a Transportation Impact Analysis per Section 3.1.2.3 of the County's TIA Guidelines. The conclusions are as follows:

- The Proposes the development and construction of a new, two-story permanent school facility with 24 classrooms, administrative offices, student and staff restrooms, multipurpose room with an integrated serving area, and recreation areas. The Project will accommodate a maximum enrollment of 600 students. Specifically, the Project proposes to serve 360 students in Kindergarten through 4th grade and 240 students in the 5th through 8th grades. The Project proposes to provide 53 parking spaces within a subterranean parking garage. Construction and occupancy of the Project is proposed to be completed by the year 2022.

- The Project is forecast to generate 1,191 new daily trips, 380 net new AM peak hour trips, and 102 net new PM peak hour trips during a typical weekday.

- The County's TIA Guidelines provides screening criteria for purposes of assessing whether a VMT analysis is required to evaluate potential transportation impacts related to development projects. The Project is located within one-half mile of Metro's Firestone Station which is served by the Metro A Line (Blue), a light rail line providing service between Downtown Los Angeles and Long Beach. Based on the Project's proximity to public transit and satisfying the related screening criteria provided in the County's TIA Guidelines, it is determined that the Project is presumed to have a less than significant transportation impact related to VMT. No additional analysis related to VMT is required.

cc: File

LINSCOTT LAW & GREENSPAN engineers

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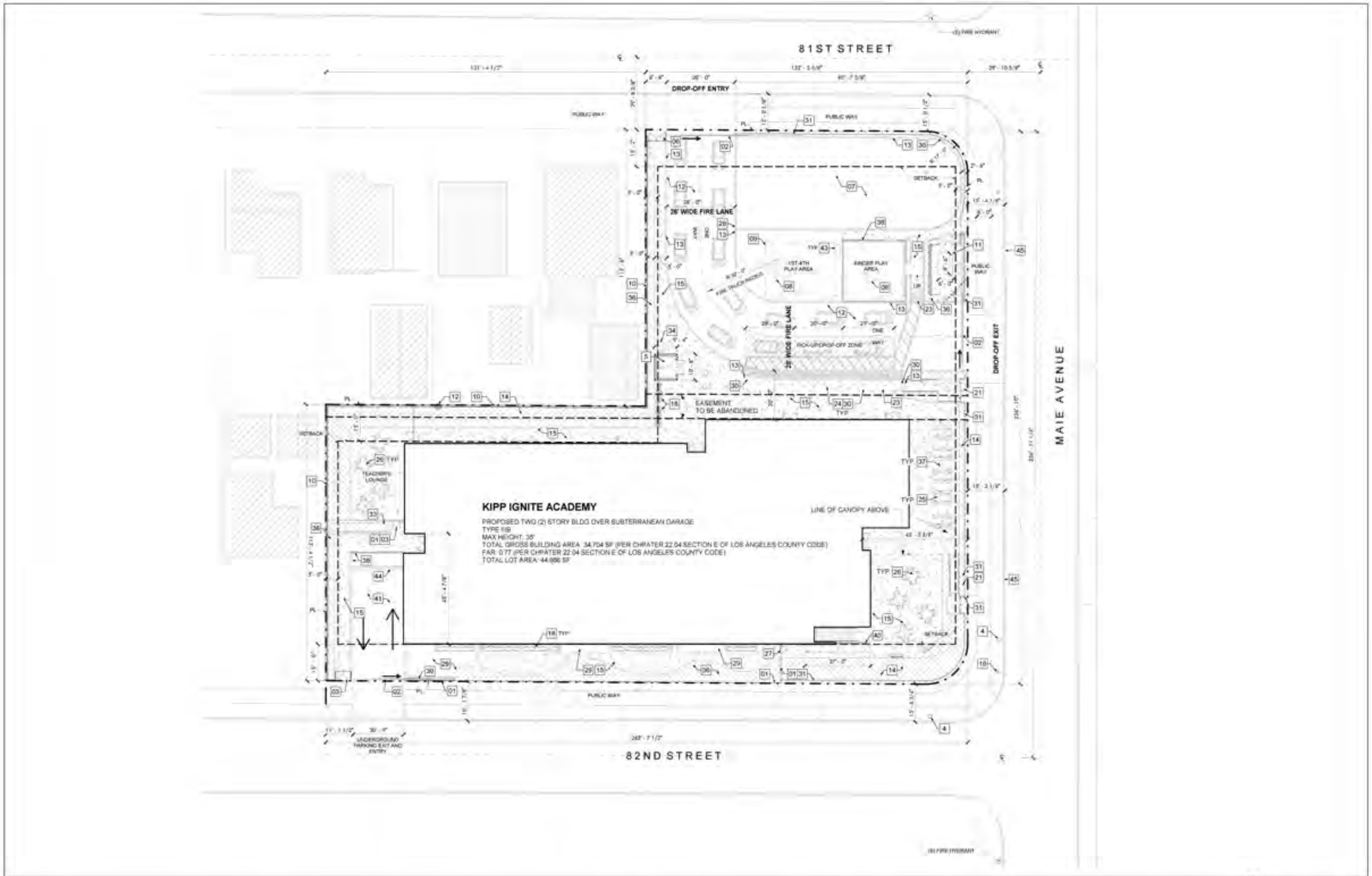
Figure 1
Vicinity Map

KIPP Ignite Academy Project



**SITE KEYNOTES**

| | |
|---|---|
| 01 | 6'H WROUGHT IRON FENCE |
| 02 | 8'H MOTORIZED AUTOMATIC VEHICULAR GATE, W/ KNOX BOX. GATE TO BE OPEN DURING DROP-OFF AND PICK UP TIMES. GATE TO BE CLOSED DURING SCHOOL HOURS |
| 03 | 8'H WROUGHT IRON PEDESTRIAN GATE, WITH PANIC HARDWARE |
| 04 | (E) LIGHT POLE |
| 05 | 6'H CMU TRASH ENCLOSURE, SPLIT FACE ONE SIDE W/CAP |
| 06 | 8'H WROUGHT IRON PEDESTRIAN GATE WITH PANIC HARDWARE AI PHONE, INTERCOM |
| 07 | SYNTHETIC TURF SEE LANDSCAPE DWGS |
| 08 | PLAY EQUIPMENT AREA. SEE LANDSCAPE DWGS |
| 09 | SHADE SAIL SEE LANDSCAPE DWGS |
| 10 | 8'H CMU WALL, SPLIT FACE BOTH SIDES WITH CAP |
| 11 | 8'X8'6" TRANSFORMER PAD PER SCE REQUIREMENTS |
| 12 | (E) POWER POLE |
| 13 | 6" CONCRETE CURB |
| 14 | LANDSCAPING. SEE LANDSCAPE DWGS |
| 15 | CONCRETE PAVEMENT WALKWAY |
| 16 | (E) TRAFFIC LIGHT |
| 17 | LONG TERM BIKE LOCKERS, DERO BIKE LOCKER 22 OR SIMILAR |
| 18 | SHORT TERM BIKE RACK |
| 19 | SHORT TERM BIKE RACK, BRSP 26 BY CANTERBURY DESIGN |
| 20 | 8'H WROUGHT IRON PEDESTRIAN GATE WITH PANIC HARDWARE. LOCKSET ONLY |
| 21 | 8'H WROUGHT IRON PEDESTRIAN GATE, DOOR TO RECEIVE ACCESS CARD READER, PANIC HARDWARE & BUZZER WITH KNOX BOX |
| 22 | BENCH SEATING. SEE LANDSCAPE DWG |
| 23 | TRUNCATED DOMES, SEE CIVIL DWG |
| 24 | BOLLARD |
| 25 | PICNIC TABLES, SEE LANDSCAPE DWGS |
| 26 | PATIO TABLES WITH SHADE UMBRELLAS, SEE LANDSCAPE DWGS |
| 27 | 8'H WROUGHT IRON PEDESTRIAN GATE WITH LOCKSET ONLY |
| 28 | 6" ROLLED CONCRETE CURB |
| 29 | DECOMPOSED GRANITE. SEE LANDSCAPE DWGS |
| 30 | ZERO CURB DROP OFF AREA |
| 31 | 8' H WROUGHT IRON FENCE WITH PERFORATED METAL PANEL |
| 32 | TRUNCATED DOMES W/CURB CUT, SEE CIVIL DWG |
| 33 | POLLINATOR GARDEN, SEE LANDSCAPE DWGS |
| 34 | PORTABLE BASKETBALL RIM |
| 35 | EQUIPMENT STORAGE |
| 36 | VINES. SEE LANDSCAPE DWGS |
| 37 | STEEL COLUMNS |
| 38 | 42" STEEL GUARDRAIL |
| 39 | CONCRETE PAVEMENT WITH GATE TRACK |
| 40 | GUARDRAIL |
| 41 | VEHICULAR RAMP TO UNDERGROUND PARKING GARAGE |
| 42 | OUTDOOR CHALKBOARD PER LANDSCAPE DWG |
| 43 | BENCH, SEE LANDSCAPE |
| 44 | OVERHEAD ROLL DOWN DOOR AND STEEL SUPPORTS |
| 45 | EXISTING UNUSED DRIVEWAYS TO BE CLOSED WITH STANDARD CURB, GUTTER, AND SIDEWALK |

**SITE PLAN NOTES**

1. THE TRASH PICK-UP TIMES SHALL NOT BE DURING THE STUDENT DROP-OFF/PICK UP TIMES.
2. A TRAFIC-GUARD/STAFF MEMBER SHALL MONITOR THE FLOW OF TRAFFIC IN THE PICK-UP/DROP-OFF AREA.
3. ALL PROPOSED DRIVEWAYS TO BE CONSTRUCTED TO MEET AMERICAN WITH DISABILITIES ACT (ADA) GUIDELINES.

**WATER USE**

OPERATIONAL WATER CALCS:
LANDSCAPE IRRIGATION DEMAND: 115,898.03 GALLONS PER MONTH
COLD WATER FIXTURE DEMAND: 92GPM
HOT WATER FIXTURE DEMAND: 19GPM

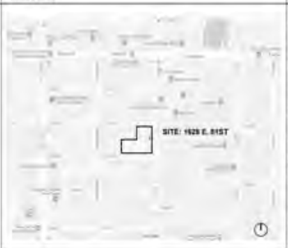
**AREAS**

SITE AREA:
(131'-4" x 115'-4") + (132'-3" x 229'-10") - (ROUNDED CORNERS) = **44,866 SF**

GROSS FLOOR AREA:
PARKING FLOOR - 20,280 SF
FIRST FLOOR - 18,281 SF
SECOND FLOOR - 16,423 SF
**TOTAL SF: 34,704 SF (EXCLUDING PARKING AREA PER LA COUNTY 22.04.050)**

FAR:
(34,706) / 44,866 = **0.77**

**VICINITY MAP**



**SITE INFORMATION**

PARKING CALCULATION:
**53 PROVIDED STALLS**
35 STANDARD
11 COMPACT @ 40% MAX
3 ADA (INCLUDING 1 VAN ADA)
4 EVCS (INCLUDING 1 VAN ADA EVCS)

PARKING REQUIREMENTS:
1 PER CLASSROOM
1 x 24 CLASSROOMS = 24 PARKING SPACES

1 PER 5 OCCUPANTS OF LARGEST ASSEMBLY SPACE
155 OCC / 5 = 31 PARKING SPACES

**TOTAL REQUIRED = 55 PARKING SPACES**

5% PARKING REDUCTION
55 SPACES x 0.05 = 2 PARKING SPACES

**TOTAL REQUIRED POST REDUCTION = 53 PARKING SPACES**

BICYCLE PARKING:
**100 SHORT TERM SPACES PROVIDED**
**3 LONG TERM SPACES PROVIDED**

4 SHORT TERM SPACES PER CLASSROOM
4 x 24 CLASSROOMS = 96 SHORT TERM

2 SHORT TERM SPACES PER CAR PARKING SPACES REDUCED
2 x 2 REDUCED SPACES = 4 SHORT TERM

**96 + 4 = 100 TOTAL SHORT TERM SPACES REQUIRED**

1 LONG TERM SPACE PER 10 CLASSROOMS
24 CLASSROOMS / 10 = **3 LONG TERM SPACES REQUIRED**

**SITE PLAN LEGEND**

| | |
|---|---|
| ▨ | (E) EXISTING BUILDING. NOT A PART |
| ▨ | LANDSCAPED AREA |
| ▨ | (N) NEW CONCRETE PAVING |
| — • — PL | PROPERTY LINE |
| - - - - - | ACCESSIBLE PATH OF TRAVEL |
| 1 | KEYNOTE |
| ○ | (N) NEW STREET TREE UNLESS OTHERWISE NOTED SEE LANDSCAPE PLAN |
| ○ | (N) NEW MEDIUM FRUIT TREE UNLESS OTHERWISE NOTED SEE LANDSCAPE PLAN |

DATE PRINTED: 9/30/2021 5:29:27 PM

PROJECT

**KIPP: IGNITE ACADEMY**

1628 EAST 81ST STREET
LOS ANGELES, CA 90001
APN:
6027-000-022, -023, -024, -025, -027, -028, -029, -030, -031

CLIENT

KIPP : LA
3601 EAST FIRST STREET
LOS ANGELES, CA 90017

ARCHITECT

**BERLINER**
ARCHITECTS

5979 WASHINGTON BLVD.
CULVER CITY, CA 90232
TEL. 310.836.2120
EMAIL: richardb@berliner-architects.com

CONSULTANTS

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LOS ANGELES, CA 90017
213-310-8520

**MEP ENGINEER**
DESIGN WEST ENGINEERING
275 WEST HOSPITALITY LANE, SUITE 100
SAN BERNARDINO, CA 92408
909-890-3700

**CIVIL ENGINEER**
BRANDOW & JOHNSTON
700 SOUTH FLOWER ST. SUITE 1800
LOS ANGELES, CA 90017
213-596-4500

**LANDSCAPE ARCHITECT**
OFFICE OF THE DESIGNED LANDSCAPE
1131 SUPERBA AVENUE
VENICE, CA 90291
213-384-7367

ISSUES

| SUBMITTAL | DATE |
|---|---|
| SCHEMATIC DESIGN 100% | 01/01/2020 |
| DESIGN DEVELOPMENT 100% | 07/31/2020 |
| TRAFFIC SUBMITTAL | 08/18/2020 |
| CUP SUBMITTAL | 10/23/2020 |
| 50% CONSTRUCTION DOCUMENTS | 01/27/2021 |
| 75% CONSTRUCTION DOCUMENTS | 03/26/2021 |
| PLAN CHECK SUBMITTAL | 03/22/2021 |
| PLAN CHECK RESUBMITTAL 1 | 10/01/2021 |

9/1/2021

18-46
JOB NUMBER

Site Plan_CUP Submittal

A0.31 CUP

N

LINSCOTT
LAW &
GREENSPAN
engineers

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Date: 10/1/2021
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Figure 2
Project Site Plan

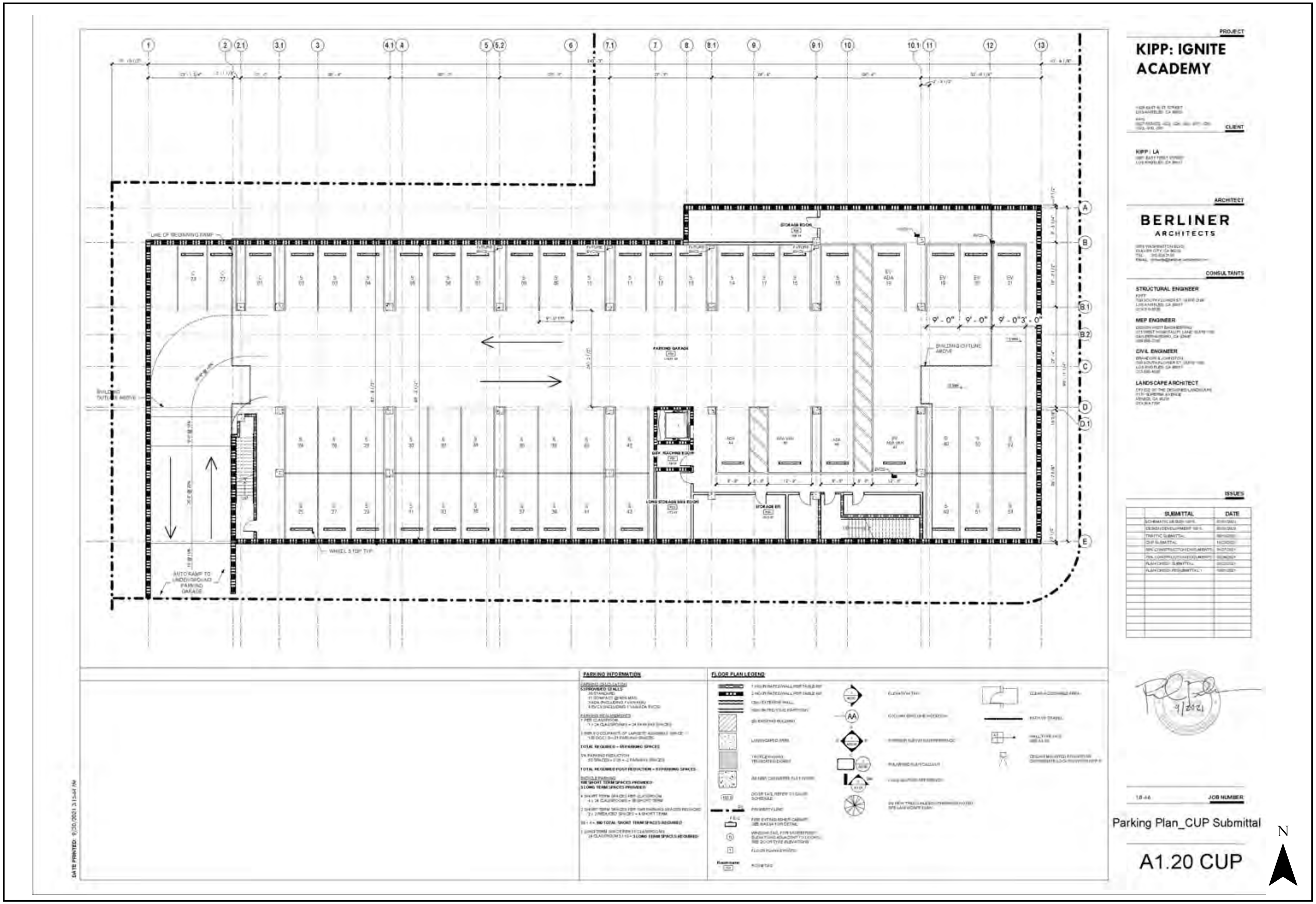

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Figure 3
Project Parking Plan

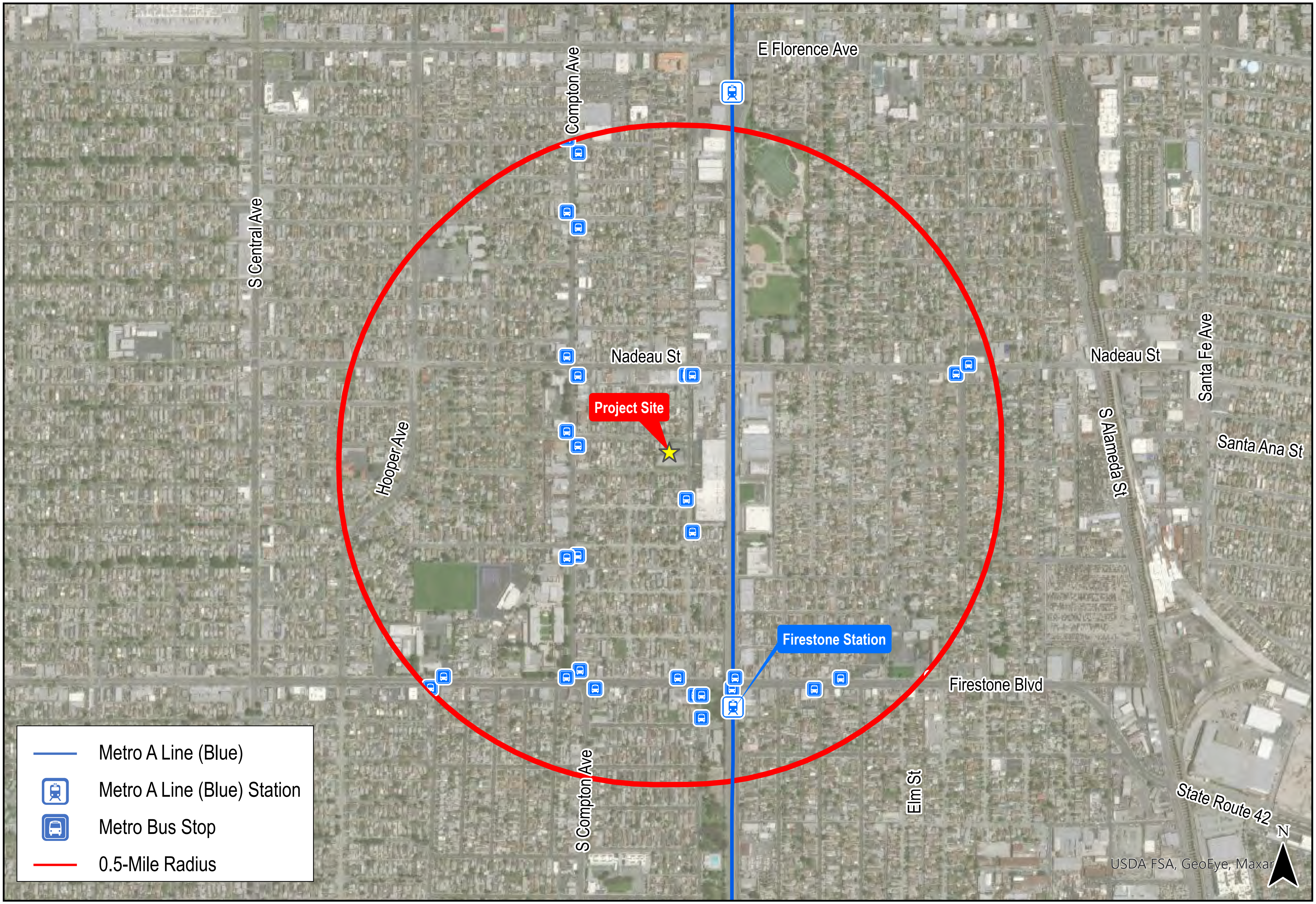
# Table 1
## PROJECT TRIP GENERATION [1]

14-Sep-21

| LAND USE | SIZE | DAILY TRIP ENDS [2] VOLUMES | AM PEAK HOUR VOLUMES [2] | | | PM PEAK HOUR VOLUMES [2] | | |
|---|---|---|---|---|---|---|---|---|
| | | | IN | OUT | TOTAL | IN | OUT | TOTAL |
| ***Proposed Project*** | | | | | | | | |
| Charter Elementary School [3] | 360 Students | 680 | 130 | 111 | 241 | 29 | 32 | 61 |
| Charter Middle School [4] | 240 Students | 511 | 75 | 64 | 139 | 20 | 21 | 41 |
| **NET INCREASE DRIVEWAY TRIPS** | | **1,191** | **205** | **175** | **380** | **49** | **53** | **102** |

[1] Source: ITE *"Trip Generation Manual,* 10th Edition, 2017.
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 520 (Elementary School) trip generation average rates per number of students.
- Daily Trip Rate: 1.89 trips/student; 50% inbound and 50% outbound
- AM Peak Hour Trip Rate: 0.67 trips/student; 54% inbound/46% outbound
- PM Peak Hour Trip Rate: 0.17 trips/student; 48% inbound/52% outbound

[4] ITE Land Use Code 522 (Middle School/Junior High School) trip generation average rates per number of students.
- Daily Trip Rate: 2.13 trips/student; 50% inbound and 50% outbound
- AM Peak Hour Trip Rate: 0.58 trips/student; 54% inbound/46% outbound
- PM Peak Hour Trip Rate: 0.17 trips/student; 49% inbound/51% outbound



| | |
|---|---|
| — | Metro A Line (Blue) |
| 🚆 | Metro A Line (Blue) Station |
| 🚌 | Metro Bus Stop |
| — | 0.5-Mile Radius |

LINSCOTT LAW & GREENSPAN engineers

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Figure 4
Existing Transit Facilities

KIPP Ignite Academy Project

# APPENDIX A

## METRO A LINE (BLUE) ROUTE MAP AND SCHEUDLE

# Monday through Friday

Effective Jun 27 2021

# A Line (Blue)

## Northbound to Los Angeles (Approximate Times)

| LONG BEACH | | | | CARSON | COMPTON | | WILLOWBROOK | WATTS | FLORENCE | | LOS ANGELES | | | DOWNTOWN LOS ANGELES | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Downtown Long Beach | Anaheim St | Willow St | Wardlow | Del Amo | Artesia | Compton | Willowbrook/ Rosa Parks | 103rd Street/ Watts Towers | Firestone | Florence | Slauson | Vernon | Washington | Grand | Pico (Expo Line) | 7th Street/ Metro Center |
| — | — | — | — | 3:09A | 3:17A | 3:23A | 3:32A | 3:35A | 3:39A | 3:42A | 3:44A | 3:47A | 3:50A | 3:56A | 4:00A | 4:02A |
| — | — | — | — | 3:43 | 3:46 | 3:49 | 3:53 | 3:55 | 3:58 | 4:00 | 4:02 | 4:05 | 4:08 | 4:14 | 4:18 | 4:20 |
| — | — | — | — | 4:03 | 4:06 | 4:09 | 4:13 | 4:15 | 4:18 | 4:20 | 4:22 | 4:25 | 4:28 | 4:34 | 4:38 | 4:40 |
| 4:04A | 4:09A | 4:15A | 4:17A | 4:20 | 4:23 | 4:26 | 4:30 | 4:32 | 4:35 | 4:37 | 4:39 | 4:42 | 4:45 | 4:51 | 4:55 | 4:57 |
| — | — | — | — | 4:35 | 4:38 | 4:41 | 4:45 | 4:47 | 4:50 | 4:52 | 4:54 | 4:57 | 5:00 | 5:06 | 5:10 | 5:12 |
| — | — | — | — | 4:45 | 4:48 | 4:51 | 4:55 | 4:57 | 5:00 | 5:02 | 5:04 | 5:07 | 5:10 | 5:16 | 5:20 | 5:22 |
| 4:37 | 4:42 | 4:48 | 4:50 | 4:53 | 4:56 | 4:59 | 5:03 | 5:05 | 5:08 | 5:10 | 5:12 | 5:15 | 5:18 | 5:24 | 5:28 | 5:30 |
| — | — | — | — | 5:03 | 5:06 | 5:09 | 5:13 | 5:15 | 5:18 | 5:20 | 5:22 | 5:25 | 5:28 | 5:34 | 5:38 | 5:40 |
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| 5:17 | 5:22 | 5:28 | 5:30 | 5:33 | 5:36 | 5:39 | 5:43 | 5:45 | 5:48 | 5:50 | 5:52 | 5:55 | 5:58 | 6:04 | 6:08 | 6:10 |
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| 7:47 | 7:52 | 7:58 | 8:00 | 8:03 | 8:06 | 8:09 | 8:13 | 8:15 | 8:18 | 8:20 | 8:22 | 8:25 | 8:28 | 8:34 | 8:38 | 8:40 |
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| 8:57 | 9:02 | 9:08 | 9:10 | 9:13 | 9:16 | 9:19 | 9:23 | 9:25 | 9:28 | 9:30 | 9:32 | 9:35 | 9:38 | 9:44 | 9:48 | 9:50 |
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| 9:33 | 9:38 | 9:44 | 9:46 | 9:49 | 9:52 | 9:55 | 9:59 | 10:01 | 10:04 | 10:06 | 10:08 | 10:11 | 10:14 | 10:20 | 10:24 | 10:26 |
| 9:45 | 9:50 | 9:56 | 9:58 | 10:01 | 10:04 | 10:07 | 10:11 | 10:13 | 10:16 | 10:18 | 10:20 | 10:23 | 10:26 | 10:32 | 10:36 | 10:38 |
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| 10:09 | 10:14 | 10:20 | 10:22 | 10:25 | 10:28 | 10:31 | 10:35 | 10:37 | 10:40 | 10:42 | 10:44 | 10:47 | 10:50 | 10:56 | 11:00 | 11:02 |
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| 11:21 | 11:26 | 11:32 | 11:34 | 11:37 | 11:40 | 11:43 | 11:47 | 11:49 | 11:52 | 11:54 | 11:56 | 11:59 | 12:02P | 12:08P | 12:12 | 12:14 |
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| 12:09P | 12:14 | 12:20 | 12:22 | 12:25 | 12:28 | 12:31 | 12:35 | 12:37 | 12:40 | 12:42 | 12:44 | 12:47 | 12:50 | 12:56 | 1:00 | 1:02 |
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| 2:17 | 2:22 | 2:28 | 2:30 | 2:33 | 2:36 | 2:39 | 2:43 | 2:45 | 2:48 | 2:50 | 2:52 | 2:55 | 2:58 | 3:04 | 3:08 | 3:10 |
| 2:27 | 2:32 | 2:38 | 2:40 | 2:43 | 2:46 | 2:49 | 2:53 | 2:55 | 2:58 | 3:00 | 3:02 | 3:05 | 3:08 | 3:14 | 3:18 | 3:20 |
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| 8:47 | 8:52 | 8:58 | 9:00 | 9:03 | 9:06 | 9:09 | 9:13 | 9:15 | 9:18 | 9:20 | 9:22 | 9:25 | 9:28 | 9:34 | 9:38 | 9:40 |
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| 10:07 | 10:12 | 10:18 | 10:20 | 10:23 | 10:26 | 10:29 | 10:33 | 10:35 | 10:38 | 10:40 | 10:42 | 10:45 | 10:48 | 10:54 | 10:58 | 11:00 |
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| 11:07 | 11:12 | 11:18 | 11:20 | 11:23 | 11:26 | 11:29 | 11:33 | 11:35 | 11:38 | 11:40 | 11:42 | 11:45 | 11:48 | 11:54 | 11:58 | 12:00A |
| 11:27 | 11:32 | 11:38 | 11:40 | 11:43 | 11:46 | 11:49 | 11:53 | 11:55 | 11:58 | 12:00A | 12:02A | 12:05A | 12:08A | 12:14A | 12:18A | 12:20 |
| 11:57 | 12:02A | 12:08A | 12:10A | 12:13A | 12:16A | 12:19A | 12:23A | 12:25A | 12:28A | 12:30 | 12:32 | 12:35 | 12:38 | 12:44 | 12:48 | 12:50 |

# Monday through Friday

# A Line (Blue)

## Southbound to Long Beach (Approximate Times)

| DOWNTOWN LOS ANGELES | | | LOS ANGELES | | | FLORENCE | | WATTS | WILLOWBROOK | COMPTON | | CARSON | LONG BEACH | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7th Street/ Metro Center | Pico (Expo Line) | Grand | Washington | Vernon | Slauson | Florence | Firestone | 103rd Street/ Watts Towers | Willowbrook/ Rosa Parks | Compton | Artesia | Del Amo | Wardlow | Willow St | Anaheim St | Downtown Long Beach |
| — | — | — | — | — | — | — | — | — | — | — | — | — | 3:30A | 3:35A | 3:44A | 3:51A |
| — | — | — | — | — | — | — | — | — | — | — | — | — | 4:08 | 4:10 | 4:17 | 4:24 |
| — | — | — | 4:00A | 4:02A | 4:04A | 4:06A | 4:08A | 4:10A | 4:12A | 4:16A | 4:19A | 4:22A | 4:26 | 4:28 | 4:35 | 4:42 |
| 4:10A | 4:13A | 4:16A | 4:21 | 4:23 | 4:25 | 4:27 | 4:29 | 4:31 | 4:33 | 4:37 | 4:40 | 4:43 | 4:47 | 4:49 | 4:56 | 5:03 |
| 4:30 | 4:33 | 4:36 | 4:41 | 4:43 | 4:45 | 4:47 | 4:49 | 4:51 | 4:53 | 4:57 | 5:00 | 5:03 | 5:07 | 5:09 | 5:16 | 5:23 |
| 4:47 | 4:50 | 4:53 | 4:58 | 5:00 | 5:02 | 5:04 | 5:06 | 5:08 | 5:10 | 5:14 | 5:17 | 5:20 | 5:24 | 5:26 | 5:33 | 5:40 |
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| 5:19 | 5:22 | 5:25 | 5:30 | 5:32 | 5:34 | 5:36 | 5:38 | 5:40 | 5:42 | 5:46 | 5:49 | 5:52 | 5:56 | 5:58 | 6:05 | 6:12 |
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| 5:48 | 5:51 | 5:54 | 5:59 | 6:01 | 6:03 | 6:05 | 6:07 | 6:09 | 6:11 | 6:15 | 6:18 | 6:21 | 6:25 | 6:27 | 6:34 | 6:41 |
| 5:58 | 6:01 | 6:04 | 6:09 | 6:11 | 6:13 | 6:15 | 6:17 | 6:19 | 6:21 | 6:25 | 6:28 | 6:31 | 6:35 | 6:37 | 6:44 | 6:51 |
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| 6:38 | 6:41 | 6:44 | 6:49 | 6:51 | 6:53 | 6:55 | 6:57 | 6:59 | 7:01 | 7:05 | 7:08 | 7:11 | 7:15 | 7:17 | 7:24 | 7:31 |
| 6:48 | 6:51 | 6:54 | 6:59 | 7:01 | 7:03 | 7:05 | 7:07 | 7:09 | 7:11 | 7:15 | 7:18 | 7:21 | 7:25 | 7:27 | 7:34 | 7:41 |
| 6:58 | 7:01 | 7:04 | 7:09 | 7:11 | 7:13 | 7:15 | 7:17 | 7:19 | 7:21 | 7:25 | 7:28 | 7:31 | 7:35 | 7:37 | 7:44 | 7:51 |
| 7:08 | 7:11 | 7:14 | 7:19 | 7:21 | 7:23 | 7:25 | 7:27 | 7:29 | 7:31 | 7:35 | 7:38 | 7:41 | 7:45 | 7:47 | 7:54 | 8:01 |
| 7:18 | 7:21 | 7:24 | 7:29 | 7:31 | 7:33 | 7:35 | 7:37 | 7:39 | 7:41 | 7:45 | 7:48 | 7:51 | 7:55 | 7:57 | 8:04 | 8:11 |
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| 9:38 | 9:41 | 9:44 | 9:49 | 9:51 | 9:53 | 9:55 | 9:57 | 9:59 | 10:01 | 10:05 | 10:08 | 10:11 | 10:15 | 10:17 | 10:24 | 10:31 |
| 9:48 | 9:51 | 9:54 | 9:59 | 10:01 | 10:03 | 10:05 | 10:07 | 10:09 | 10:11 | 10:15 | 10:18 | 10:21 | 10:25 | 10:27 | 10:34 | 10:41 |
| 9:58 | 10:01 | 10:04 | 10:09 | 10:11 | 10:13 | 10:15 | 10:17 | 10:19 | 10:21 | 10:25 | 10:28 | 10:31 | 10:35 | 10:37 | 10:44 | 10:51 |
| 10:09 | 10:12 | 10:15 | 10:20 | 10:22 | 10:24 | 10:26 | 10:28 | 10:30 | 10:32 | 10:36 | 10:39 | 10:42 | 10:46 | 10:48 | 10:55 | 11:02 |
| 10:21 | 10:24 | 10:27 | 10:32 | 10:34 | 10:36 | 10:38 | 10:40 | 10:42 | 10:44 | 10:48 | 10:51 | 10:54 | 10:58 | 11:00 | 11:07 | 11:14 |
| 10:33 | 10:36 | 10:39 | 10:44 | 10:46 | 10:48 | 10:50 | 10:52 | 10:54 | 10:56 | 11:00 | 11:03 | 11:06 | 11:10 | 11:12 | 11:19 | 11:26 |
| 10:45 | 10:48 | 10:51 | 10:56 | 10:58 | 11:00 | 11:02 | 11:04 | 11:06 | 11:08 | 11:12 | 11:15 | 11:18 | 11:22 | 11:24 | 11:31 | 11:38 |
| 10:57 | 11:00 | 11:03 | 11:08 | 11:10 | 11:12 | 11:14 | 11:16 | 11:18 | 11:20 | 11:24 | 11:27 | 11:30 | 11:34 | 11:36 | 11:43 | 11:50 |
| 11:09 | 11:12 | 11:15 | 11:20 | 11:22 | 11:24 | 11:26 | 11:28 | 11:30 | 11:32 | 11:36 | 11:39 | 11:42 | 11:46 | 11:48 | 11:55 | 12:02P |
| 11:21 | 11:24 | 11:27 | 11:32 | 11:34 | 11:36 | 11:38 | 11:40 | 11:42 | 11:44 | 11:48 | 11:51 | 11:54 | 11:58 | 12:00P | 12:07P | 12:14 |
| 11:33 | 11:36 | 11:39 | 11:44 | 11:46 | 11:48 | 11:50 | 11:52 | 11:54 | 11:56 | 12:00P | 12:03P | 12:06P | 12:10P | 12:12 | 12:19 | 12:26 |
| 11:45 | 11:48 | 11:51 | 11:56 | 11:58 | 12:00P | 12:02P | 12:04P | 12:06P | 12:08P | 12:12 | 12:15 | 12:18 | 12:22 | 12:24 | 12:31 | 12:38 |
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| 7:21 | 7:24 | 7:27 | 7:32 | 7:34 | 7:36 | 7:38 | 7:40 | 7:42 | 7:44 | 7:48 | 7:51 | 7:54 | 7:58 | 8:00 | 8:07 | 8:14 |
| 7:33 | 7:36 | 7:39 | 7:44 | 7:46 | 7:48 | 7:50 | 7:52 | 7:54 | 7:56 | 8:00 | 8:03 | 8:06 | 8:10 | 8:12 | 8:19 | 8:26 |
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| 9:10 | 9:13 | 9:16 | 9:21 | 9:23 | 9:25 | 9:27 | 9:29 | 9:31 | 9:33 | 9:37 | 9:40 | 9:43 | 9:47 | 9:49 | 9:56 | 10:03 |
| 9:30 | 9:33 | 9:36 | 9:41 | 9:43 | 9:45 | 9:47 | 9:49 | 9:51 | 9:53 | 9:57 | 10:00 | 10:03 | 10:07 | 10:09 | 10:16 | 10:23 |
| 9:50 | 9:53 | 9:56 | 10:01 | 10:03 | 10:05 | 10:07 | 10:09 | 10:11 | 10:13 | 10:17 | 10:20 | 10:23 | 10:27 | 10:29 | 10:36 | 10:43 |
| 10:10 | 10:13 | 10:16 | 10:21 | 10:23 | 10:25 | 10:27 | 10:29 | 10:31 | 10:33 | 10:37 | 10:40 | 10:43 | 10:47 | 10:49 | 10:56 | 11:03 |
| 10:30 | 10:33 | 10:36 | 10:41 | 10:43 | 10:45 | 10:47 | 10:49 | 10:51 | 10:53 | 10:57 | 11:00 | 11:03 | 11:07 | 11:09 | 11:16 | 11:23 |
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| 11:10 | 11:13 | 11:16 | 11:21 | 11:23 | 11:25 | 11:27 | 11:29 | 11:31 | 11:33 | 11:37 | 11:40 | 11:43 | 11:47 | 11:49 | 11:56 | 12:03A |
| 11:30 | 11:33 | 11:36 | 11:41 | 11:43 | 11:45 | 11:47 | 11:49 | 11:51 | 11:53 | 11:57 | 12:00A | 12:03A | 12:07A | 12:09A | 12:16A | 12:23 |
| 11:50 | 11:53 | 11:56 | 12:01A | 12:03A | 12:05A | 12:07A | 12:09A | 12:11A | 12:13A | 12:17A | 12:20 | 12:23 | 12:27 | 12:29 | 12:36 | 12:43 |
| 12:10A | 12:13A | 12:16A | 12:21 | 12:23 | 12:25 | 12:27 | 12:29 | 12:31 | 12:33 | 12:37 | 12:40 | 12:43 | 12:47 | 12:49 | 12:56 | 1:03 |

## Saturday, Sunday and Holiday Schedules

Saturday, Sunday and Holiday Schedule in effect on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

## *Horarios de sábado, domingo y días feriados*

*Horarios de sábado, domingo, y días feriados en vigor para New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day y Christmas Day.*

## Special Notes

**ALL TRIPS ARE SUBJECT TO OPERATE 2 MINUTES EARLY/ LATE OF PRINTED SCHEDULE TIMES.**

All trains after 8:00 P.M. are subject to service delays for system maintenance projects.
All Weekend trains before 10:00 A.M. are also subject to service delays for system maintenance projects.
Please visit http://bit.ly/Blue411 or call 323.GO.METRO for latest information. Information will also be displayed on electronic displays and in display cases at stations.

## *Avisos especiales*

***TODOS LOS VIAJES SON SUJETOS A OPERAR 2 MINUTOS MAS TEMPRANO/TARDE QUE LA HORA MOSTRADA.***

*Todos los trenes después de las 8:00pm son sujetos a demoras debido a mantenimiento.*
*Todos los trenes del fin de semana antes de las 10:00am son sujetos a demoras debido a mantenimiento.*
*Por favor de visitar http://bit.ly/Blue411 o llamar al 323.GO.METRO para mas información. La información también será demostrada en presentaciones electrónicas y en vitrinas en estaciones.*

Effective Jun 27 2021

A

# A Line (Blue)

Metro Rail

Downtown LA – Long Beach

**metro.net**
323.GO.METRO

**Travel Info**
511

**Wheelchair Hotline**
800.621.7828

**California Relay Service**
711

Metro

**Subject to change without notice**
*Sujeto a cambios sin previo aviso*

# Saturday, Sunday & Holidays

Effective Jun 27 2021

# A Line (Blue)

## Northbound to Los Angeles (Approximate Times)

| LONG BEACH | | | | CARSON | COMPTON | | WILLOWBROOK | WATTS | FLORENCE | | LOS ANGELES | | | DOWNTOWN LOS ANGELES | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Downtown Long Beach | Anaheim St | Willow St | Wardlow | Del Amo | Artesia | Compton | Willowbrook/ Rosa Parks | 103rd Street/ Watts Towers | Firestone | Florence | Slauson | Vernon | Washington | Grand | Pico (Expo Line) | 7th Street/ Metro Center |
| — | — | — | — | 3:09A | 3:17A | 3:23A | 3:32A | 3:35A | 3:39A | 3:42A | 3:44A | 3:47A | 3:50A | 3:56A | 4:00A | 4:02A |
| — | — | — | — | 3:43 | 3:46 | 3:49 | 3:53 | 3:55 | 3:58 | 4:00 | 4:02 | 4:05 | 4:08 | 4:14 | 4:18 | 4:20 |
| — | — | — | — | 4:03 | 4:06 | 4:09 | 4:13 | 4:15 | 4:18 | 4:20 | 4:22 | 4:25 | 4:28 | 4:34 | 4:38 | 4:40 |
| 4:07A | 4:12A | 4:18A | 42:20A | 4:23 | 4:26 | 4:29 | 4:33 | 4:35 | 4:38 | 4:40 | 4:42 | 4:45 | 4:48 | 4:54 | 4:58 | 5:00 |
| — | — | — | — | 4:43 | 4:46 | 4:49 | 4:53 | 4:55 | 4:58 | 5:00 | 5:02 | 5:05 | 5:08 | 5:14 | 5:18 | 5:20 |
| 4:47 | 4:52 | 4:58 | 5:00 | 5:03 | 5:06 | 5:09 | 5:13 | 5:15 | 5:18 | 5:20 | 5:22 | 5:25 | 5:28 | 5:34 | 5:38 | 5:40 |
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| 7:47 | 7:52 | 7:58 | 8:00 | 8:03 | 8:06 | 8:09 | 8:13 | 8:15 | 8:18 | 8:20 | 8:22 | 8:25 | 8:28 | 8:34 | 8:38 | 8:40 |
| 8:00 | 8:05 | 8:11 | 8:13 | 8:16 | 8:19 | 8:22 | 8:26 | 8:28 | 8:31 | 8:33 | 8:35 | 8:38 | 8:41 | 8:47 | 8:51 | 8:53 |
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| 8:36 | 8:41 | 8:47 | 8:49 | 8:52 | 8:55 | 8:58 | 9:02 | 9:04 | 9:07 | 9:09 | 9:11 | 9:14 | 9:17 | 9:23 | 9:27 | 9:29 |
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| 11:24 | 11:29 | 11:35 | 11:37 | 11:40 | 11:43 | 11:46 | 11:50 | 11:52 | 11:55 | 11:57 | 11:59 | 12:02P | 12:05P | 12:11P | 12:15 | 12:17 |
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| 10:27 | 10:32 | 10:38 | 10:40 | 10:43 | 10:46 | 10:49 | 10:53 | 10:55 | 10:58 | 11:00 | 11:02 | 11:05 | 11:08 | 11:14 | 11:18 | 11:20 |
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| 11:07 | 11:12 | 11:18 | 11:20 | 11:23 | 11:26 | 11:29 | 11:33 | 11:35 | 11:38 | 11:40 | 11:42 | 11:45 | 11:48 | 11:54 | 11:58 | 12:00A |
| 11:27 | 11:32 | 11:38 | 11:40 | 11:43 | 11:46 | 11:49 | 11:53 | 11:55 | 11:58 | 12:00A | 12:02A | 12:05A | 12:08A | 12:14A | 12:18A | 12:20 |
| 11:57 | 12:02A | 12:08A | 12:10A | 12:13A | 12:16A | 12:19A | 12:23A | 12:25A | 12:28A | 12:30 | 12:32 | 12:35 | 12:38 | 12:44 | 12:48 | 12:50 |

# Saturday, Sunday & Holidays

# A Line (Blue)

## Southbound to Long Beach (Approximate Times)

| DOWNTOWN LOS ANGELES | | | LOS ANGELES | | | FLORENCE | | WATTS | WILLOWBROOK | COMPTON | | CARSON | LONG BEACH | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7th Street/ Metro Center | Pico (Expo Line) | Grand | Washington | Vernon | Slauson | Florence | Firestone | 103rd Street/ Watts Towers | Willowbrook/ Rosa Parks | Compton | Artesia | Del Amo | Wardlow | Willow St | Anaheim St | Downtown Long Beach |
| — | — | — | — | — | — | — | — | — | — | — | — | — | 3:36A | 3:41A | 3:50A | 3:57A |
| — | — | — | — | — | — | — | — | — | — | — | — | — | 4:21 | 4:23 | 4:30 | 4:37 |
| — | — | — | 4:01A | 4:03A | 4:05A | 4:07A | 4:09A | 4:11A | 4:13A | 4:17A | 4:20A | 4:23A | 4:27 | 4:29 | 4:36 | 4:43 |
| 4:10A | 4:13A | 4:16A | 4:21 | 4:23 | 4:25 | 4:27 | 4:29 | 4:31 | 4:33 | 4:37 | 4:40 | 4:43 | 4:47 | 4:49 | 4:56 | 5:03 |
| 4:30 | 4:33 | 4:36 | 4:41 | 4:43 | 4:45 | 4:47 | 4:49 | 4:51 | 4:53 | 4:57 | 5:00 | 5:03 | 5:07 | 5:09 | 5:16 | 5:23 |
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| 1:33 | 1:36 | 1:39 | 1:44 | 1:46 | 1:48 | 1:50 | 1:52 | 1:54 | 1:56 | 2:00 | 2:03 | 2:06 | 2:10 | 2:12 | 2:19 | 2:26 |
| 1:45 | 1:48 | 1:51 | 1:56 | 1:58 | 2:00 | 2:02 | 2:04 | 2:06 | 2:08 | 2:12 | 2:15 | 2:18 | 2:22 | 2:24 | 2:31 | 2:38 |
| 1:57 | 2:00 | 2:03 | 2:08 | 2:10 | 2:12 | 2:14 | 2:16 | 2:18 | 2:20 | 2:24 | 2:27 | 2:30 | 2:34 | 2:36 | 2:43 | 2:50 |
| 2:09 | 2:12 | 2:15 | 2:20 | 2:22 | 2:24 | 2:26 | 2:28 | 2:30 | 2:32 | 2:36 | 2:39 | 2:42 | 2:46 | 2:48 | 2:55 | 3:02 |
| 2:21 | 2:24 | 2:27 | 2:32 | 2:34 | 2:36 | 2:38 | 2:40 | 2:42 | 2:44 | 2:48 | 2:51 | 2:54 | 2:58 | 3:00 | 3:07 | 3:14 |
| 2:33 | 2:36 | 2:39 | 2:44 | 2:46 | 2:48 | 2:50 | 2:52 | 2:54 | 2:56 | 3:00 | 3:03 | 3:06 | 3:10 | 3:12 | 3:19 | 3:26 |
| 2:45 | 2:48 | 2:51 | 2:56 | 2:58 | 3:00 | 3:02 | 3:04 | 3:06 | 3:08 | 3:12 | 3:15 | 3:18 | 3:22 | 3:24 | 3:31 | 3:38 |
| 2:57 | 3:00 | 3:03 | 3:08 | 3:10 | 3:12 | 3:14 | 3:16 | 3:18 | 3:20 | 3:24 | 3:27 | 3:30 | 3:34 | 3:36 | 3:43 | 3:50 |
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| 3:21 | 3:24 | 3:27 | 3:32 | 3:34 | 3:36 | 3:38 | 3:40 | 3:42 | 3:44 | 3:48 | 3:51 | 3:54 | 3:58 | 4:00 | 4:07 | 4:14 |
| 3:33 | 3:36 | 3:39 | 3:44 | 3:46 | 3:48 | 3:50 | 3:52 | 3:54 | 3:56 | 4:00 | 4:03 | 4:06 | 4:10 | 4:12 | 4:19 | 4:26 |
| 3:45 | 3:48 | 3:51 | 3:56 | 3:58 | 4:00 | 4:02 | 4:04 | 4:06 | 4:08 | 4:12 | 4:15 | 4:18 | 4:22 | 4:24 | 4:31 | 4:38 |
| 3:57 | 4:00 | 4:03 | 4:08 | 4:10 | 4:12 | 4:14 | 4:16 | 4:18 | 4:20 | 4:24 | 4:27 | 4:30 | 4:34 | 4:36 | 4:43 | 4:50 |
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| 5:21 | 5:24 | 5:27 | 5:32 | 5:34 | 5:36 | 5:38 | 5:40 | 5:42 | 5:44 | 5:48 | 5:51 | 5:54 | 5:58 | 6:00 | 6:07 | 6:14 |
| 5:33 | 5:36 | 5:39 | 5:44 | 5:46 | 5:48 | 5:50 | 5:52 | 5:54 | 5:56 | 6:00 | 6:03 | 6:06 | 6:10 | 6:12 | 6:19 | 6:26 |
| 5:45 | 5:48 | 5:51 | 5:56 | 5:58 | 6:00 | 6:02 | 6:04 | 6:06 | 6:08 | 6:12 | 6:15 | 6:18 | 6:22 | 6:24 | 6:31 | 6:38 |
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| 6:09 | 6:12 | 6:15 | 6:20 | 6:22 | 6:24 | 6:26 | 6:28 | 6:30 | 6:32 | 6:36 | 6:39 | 6:42 | 6:46 | 6:48 | 6:55 | 7:02 |
| 6:21 | 6:24 | 6:27 | 6:32 | 6:34 | 6:36 | 6:38 | 6:40 | 6:42 | 6:44 | 6:48 | 6:51 | 6:54 | 6:58 | 7:00 | 7:07 | 7:14 |
| 6:33 | 6:36 | 6:39 | 6:44 | 6:46 | 6:48 | 6:50 | 6:52 | 6:54 | 6:56 | 7:00 | 7:03 | 7:06 | 7:10 | 7:12 | 7:19 | 7:26 |
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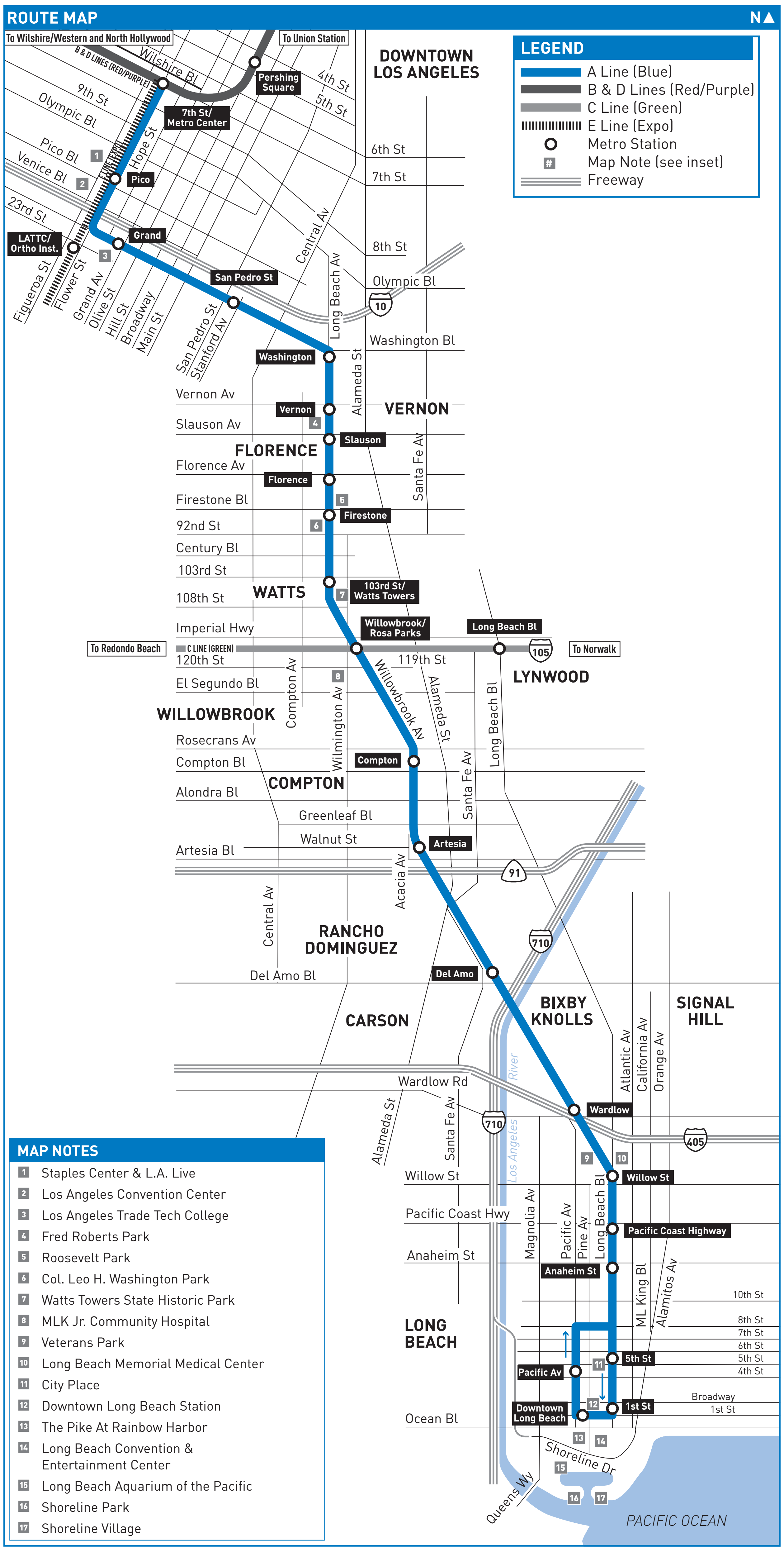
| 7:50 | 7:53 | 7:56 | 8:01 | 8:03 | 8:05 | 8:07 | 8:09 | 8:11 | 8:13 | 8:17 | 8:20 | 8:23 | 8:27 | 8:29 | 8:36 | 8:43 |
| 8:10 | 8:13 | 8:16 | 8:21 | 8:23 | 8:25 | 8:27 | 8:29 | 8:31 | 8:33 | 8:37 | 8:40 | 8:43 | 8:47 | 8:49 | 8:56 | 9:03 |
| 8:30 | 8:33 | 8:36 | 8:41 | 8:43 | 8:45 | 8:47 | 8:49 | 8:51 | 8:53 | 8:57 | 9:00 | 9:03 | 9:07 | 9:09 | 9:16 | 9:23 |
| 8:50 | 8:53 | 8:56 | 9:01 | 9:03 | 9:05 | 9:07 | 9:09 | 9:11 | 9:13 | 9:17 | 9:20 | 9:23 | 9:27 | 9:29 | 9:36 | 9:43 |
| 9:10 | 9:13 | 9:16 | 9:21 | 9:23 | 9:25 | 9:27 | 9:29 | 9:31 | 9:33 | 9:37 | 9:40 | 9:43 | 9:47 | 9:49 | 9:56 | 10:03 |
| 9:30 | 9:33 | 9:36 | 9:41 | 9:43 | 9:45 | 9:47 | 9:49 | 9:51 | 9:53 | 9:57 | 10:00 | 10:03 | 10:07 | 10:09 | 10:16 | 10:23 |
| 9:50 | 9:53 | 9:56 | 10:01 | 10:03 | 10:05 | 10:07 | 10:09 | 10:11 | 10:13 | 10:17 | 10:20 | 10:23 | 10:27 | 10:29 | 10:36 | 10:43 |
| 10:10 | 10:13 | 10:16 | 10:21 | 10:23 | 10:25 | 10:27 | 10:29 | 10:31 | 10:33 | 10:37 | 10:40 | 10:43 | 10:47 | 10:49 | 10:56 | 11:03 |
| 10:30 | 10:33 | 10:36 | 10:41 | 10:43 | 10:45 | 10:47 | 10:49 | 10:51 | 10:53 | 10:57 | 11:00 | 11:03 | 11:07 | 11:09 | 11:16 | 11:23 |
| 10:50 | 10:53 | 10:56 | 11:01 | 11:03 | 11:05 | 11:07 | 11:09 | 11:11 | 11:13 | 11:17 | 11:20 | 11:23 | 11:27 | 11:29 | 11:36 | 11:43 |
| 11:10 | 11:13 | 11:16 | 11:21 | 11:23 | 11:25 | 11:27 | 11:29 | 11:31 | 11:33 | 11:37 | 11:40 | 11:43 | 11:47 | 11:49 | 11:56 | 12:03A |
| 11:30 | 11:33 | 11:36 | 11:41 | 11:43 | 11:45 | 11:47 | 11:49 | 11:51 | 11:53 | 11:57 | 12:00A | 12:03A | 12:07A | 12:09A | 12:16A | 12:23 |
| 11:50 | 11:53 | 11:56 | 12:01A | 12:03A | 12:05A | 12:07A | 12:09A | 12:11A | 12:13A | 12:17A | 12:20 | 12:23 | 12:27 | 12:29 | 12:36 | 12:43 |
| 12:10A | 12:13A | 12:16A | 12:21 | 12:23 | 12:25 | 12:27 | 12:29 | 12:31 | 12:33 | 12:37 | 12:40 | 12:43 | 12:47 | 12:49 | 12:56 | 1:03 |

## ROUTE MAP



### LEGEND

- A Line (Blue)
- B & D Lines (Red/Purple)
- C Line (Green)
- E Line (Expo)
- ○ Metro Station
- # Map Note (see inset)
- Freeway

### MAP NOTES

1. Staples Center & L.A. Live
2. Los Angeles Convention Center
3. Los Angeles Trade Tech College
4. Fred Roberts Park
5. Roosevelt Park
6. Col. Leo H. Washington Park
7. Watts Towers State Historic Park
8. MLK Jr. Community Hospital
9. Veterans Park
10. Long Beach Memorial Medical Center
11. City Place
12. Downtown Long Beach Station
13. The Pike At Rainbow Harbor
14. Long Beach Convention & Entertainment Center
15. Long Beach Aquarium of the Pacific
16. Shoreline Park
17. Shoreline Village

## CONNECTIONS

| **7th Street/Metro Center** | |
|---|---|
| Metro | **Metro Rail** B, D, E Lines (Red, Purple Expo<br>**Metro Liner** J Line (Silver)<br>**Metro Local** 14, 16, 18, 20, 37, 51, 53, 55, 60, 62, 66, 70, 76, 78, 79, 81;<br>**Metro Rapid** 720;<br>**Metro Express** 460, 487, 489; |
| Foothill Transit | Silver Streak, 493, 497, 498, 499, 699 |
| LADOT | DASH A, B, E, F;<br>Commuter Express 409, 422, 423, 431, 437, 438, 448, 534 |
| Montebello Bus Lines | 40, 50, 90 |
| Other providers | Antelope Valley Transit Authority 785; City of Santa Clarita Transit 799; Orange County 701, 721; Santa Monica Big Blue Bus Rapid 10; Torrance Transit 4X |

| **Pico** | |
|---|---|
| Metro | **Metro Rail** E Line (Expo)<br>**Metro Liner** J Line (Silver)<br>**Metro Local** 30, 81<br>**Metro Express** 460; |
| LADOT | DASH F; Commuter Express 419, 422, 423, 438, 448 |
| Other providers | Orange County 701, 721;<br>Torrance Transit 4x |

| **Grand** | |
|---|---|
| Metro | **Metro Local** 14, 35, 37, 38, 55, 603 |
| LADOT | DASH D, DASH Pico Union/Echo Park |

| **San Pedro St** | |
|---|---|
| Metro | **Metro Local** 51 |
| LADOT | DASH E, DASH King-East |
| Montebello Bus Lines | 50 |

| **Washington** | |
|---|---|
| Montebello Bus Lines | 50 |

| **Vernon** | |
|---|---|
| Metro | **Metro Local** 105, 611; |
| LADOT | DASH Pueblo Del Rio,<br>DASH Southeast |

| **Slauson** | |
|---|---|
| Metro | **Metro Local** 108 |
| LADOT | DASH Pueblo Del Rio |

| **Florence** | **PARKING AVAILABLE** |
|---|---|
| Metro | **Metro Local** 110, 111, 611 |
| LADOT | DASH Chesterfield Square |

| **Firestone** | |
|---|---|
| Metro | **Metro Local** 115 |
| The Link | Florence-Firestone-Walnut Park |

| **103rd Street/Watts Towers** | |
|---|---|
| Metro | **Metro Local** 117 |
| LADOT | DASH Watts |

| **Willowbrook/Rosa Parks** | **PARKING AVAILABLE** |
|---|---|
| Metro | **Metro Rail** C Line (Green)<br>**Metro Local** 55, 120, 202, 205 |
| Other providers | GTrans Line 5;<br>LADOT DASH Watts; Lynwood Breeze Route D; The Link Willowbrook A, B,<br>King Medical Center Shuttle |

| **Compton** | |
|---|---|
| Metro | **Metro Local** 125, 127, 128, 202 |
| Other providers | Compton Renaissance Transit 1, 2, 3, 4, 5; G-Trans 3; Greyhound |

| **Artesia** | **PARKING AVAILABLE** |
|---|---|
| Metro | **Metro Local** 60, 130, 202, 205, 260; |
| Long Beach Transit | 51, 52, 61 |
| Other providers | Compton Renaissance Transit 5;<br>Torrance Transit 6; Torrance 13 |

| **Del Amo** | **PARKING AVAILABLE** |
|---|---|
| Metro | **Metro Local** 202 |
| Carson Circuit | D, G |
| Long Beach Transit | 1, 191, 192 |

| **Wardlow** | **PARKING AVAILABLE** |
|---|---|
| Long Beach Transit | 131, 181, 182 |

| **Willow St** | **PARKING AVAILABLE** |
|---|---|
| Metro | **Metro Local** 60 Owl |
| Long Beach Transit | 51, 52, 101, 102, 103, 104 |

| **Pacific Coast Highway** | |
|---|---|
| Metro | **Metro Local** 60 Owl |
| Long Beach Transit | 1, 51, 171, 172, 173, 174, 176 |

| **Anaheim St** | |
|---|---|
| Metro | **Metro Local** 60 Owl, 232 |
| Long Beach Transit | 1, 51, 45, 46, 52 |

| **Downtown Long Beach loop stations (5th Street, 1st Street, Downtown Long Beach and Pacific Av)** | |
|---|---|
| Metro | **Metro Local** 60 Owl, 232 |
| Long Beach Transit | 1, 21, 22, 46, 51, 61, 71, 72, 81, 91, 92, 93, 94, 96, 111, 112, 121, 151, 172, 173, 174, 181, 182, 191, 192; Passport |
| Other providers | LADOT Commuter Express 142;<br>Torrance Transit 3, Rapid 3 |

# APPENDIX B

## REFERENCES FROM CHAPTER 3 OF *CONNECT SOCAL*

# CHAPTER
# 3

## CHAPTER 3

# A PATH TO GREATER ACCESS, MOBILITY & SUSTAINABILITY

# CORE VISION

Rooted in the 2008 and 2012 RTP/SCS plans, Connect SoCal's "Core Vision" centers on maintaining and better managing the transportation network we have for moving people and goods, while expanding mobility choices by locating housing, jobs and transit closer together and increasing investment in transit and complete streets. Examples of SCAG's Core Vision are embedded throughout this chapter in blue highlight boxes, and include progress made since the 2016 RTP/SCS. These highlights are presented alongside the narrative, which provides a more comprehensive overview of strategies planned to advance the region's core vision for mobility and sustainability. The Core Vision includes:

- SUSTAINABLE DEVELOPMENT
- SYSTEM PRESERVATION & RESILIENCE
- DEMAND & SYSTEM MANAGEMENT
- TRANSIT BACKBONE
- COMPLETE STREETS
- GOODS MOVEMENT

There is no one-size-fits-all solution for regional challenges. Instead, we must explore an integrated web of creative strategies to achieve the goals of Connect SoCal. In this chapter we will lay out clear policy guidance, action-oriented strategies and pragmatic tools that can be utilized to achieve a coordinated and balanced regional transportation system. This chapter also describes strategies to integrate the region's Forecasted Development Pattern with the transportation network to demonstrate reductions in greenhouse gas (GHG) emissions.

## OUR VISION FOR A CONNECTED REGION

As the region's population increases, ages and diversifies, it is crucial that land use decisions and transportation investments made at the federal, state, regional and local levels are coordinated to be able to achieve Connect SoCal's regional goals. Developing compact centers with a robust mix of land uses, a range of building types and connected public spaces can strengthen the fabric of communities. Targeting rideshare and transportation demand management strategies near employment centers can reduce travel costs and improve air quality. Thoughtfully locating freight delivery facilities and logistics centers can reduce truck travel and the impact of goods movement on communities. While coordinating land-use and transportation strategies makes sense and can yield beneficial outcomes, implementation is difficult in a region where authority is divided among myriad agencies. This plan is not designed to dictate or supersede local actions and policies, but rather to lay out a path to achieving regional goals set by the Regional Council.

Our vision for the region incorporates a range of best practices for increasing transportation choices, reducing dependence on personal automobiles, further improving air quality and encouraging growth in walkable, mixed-use communities with ready access to transit infrastructure and employment. More and varied housing types and employment opportunities would be located in and near job centers, transit stations and walkable neighborhoods where goods and services are easily accessible via shorter trips. To support shorter trips, people would have the choice of using neighborhood bike networks, car share or micro-mobility services like shared bicycles or scooters. For longer commutes, people would have expanded regional transit services and more employer incentives to carpool or vanpool. Other longer trips would be supported by on-demand services such as microtransit, carshare and citywide partnerships with ride hailing services. For those that choose to drive, hotspots of congestion would be less difficult to navigate due to cordon pricing, and using an electric vehicle will be easier thanks to an expanded regional charging network.

There are certainly inherent constraints to expansive regional growth, and areas that are susceptible to natural hazards and a changing climate must be recognized. Connect SoCal therefore emphasizes options that conserve important farmland, resource areas and habitat corridors, and de-prioritizes growth on lands that are vulnerable to wildfire, flooding and near term sea-level rise.

## OUR APPROACH

Connect SoCal addresses regional challenges in several ways. A key, formative step is to develop a Regional Growth Forecast in collaboration with local jurisdictions, which helps SCAG identify opportunities and barriers to development. The plan forecasts the number of people, households and jobs (at the jurisdictional level) expected throughout SCAG's 191 cities and in unincorporated areas by 2045. This forecast helps the region understand in a very general sense where we expect growth and allows us to focus attention on areas experiencing change and increases in transportation needs. For additional details on growth forecast methodology, refer to the Demographics and Growth Forecast Technical Report.

The Regional Growth Forecast is then complemented by a set of strategies to guide integrated land use development decisions and transportation investments to achieve regional goals, called the Connect SoCal Growth Vision. The resulting Forecasted Development Pattern includes strategies to prioritize areas for new development, like near destinations and mobility options, and places enhanced conservation value on resource areas, key farm lands and areas vulnerable to natural hazards. However, Connect SoCal does not dictate or supersede local policies, actions or strategies – applying the Forecasted Development Pattern at the local level is the authority and responsibility of towns, cities and counties. The regional Forecasted Development Pattern identifies areas sufficient to house the region's population, including all economic segments of the population, through 2045. It takes into account

## KEY CONNECTIONS

In this chapter, we also describe Connect SoCal's "Key Connections" in yellow highlight boxes. Key Connections augment the Core Vision of the plan to address trends and emerging challenges while "closing the gap" between what can be accomplished through intensification of core planning strategies alone, and what must be done to meet increasingly aggressive greenhouse gas reduction goals. These Key Connections lie at the intersection of land use, transportation and innovation, aiming to coalesce policy discussions and advance promising strategies for leveraging new technologies and partnerships to accelerate progress on regional planning goals. The Key Connections include:

- SMART CITIES & JOB CENTERS
- HOUSING SUPPORTIVE INFRASTRUCTURE
- GO ZONES
- ACCELERATED ELECTRIFICATION
- SHARED MOBILITY & MOBILITY AS A SERVICE

## CORE VISION
### SUSTAINABLE DEVELOPMENT

Through our continuing efforts to better align transportation investments and land use decisions, we strive to improve mobility and reduce greenhouse gases by bringing housing, jobs and transit closer together.

**PROGRESS SINCE 2016**

From 2008 to 2016, 71 percent of the region's household growth and 75 percent of the region's job growth occurred in Connect SoCal's priority growth areas. During this same period, only 11 percent of the region's household growth and 5 percent of the job growth occurred on constrained areas like prime farmland, and in areas vulnerable to rising seas.

**PLANNING FOR 2045**

From 2016 to 2045, 64 percent of new households and 74 percent of new jobs will occur in priority growth areas. During this same period, roughly 10 percent of new households and 9 percent of new jobs will occur in constrained areas.

SCAG's Sustainable Communities Program supports planning in local jurisdictions to advance the regional Growth Vision. In addition, new regional data tools, like the Regional Data Platform, will help local jurisdictions identify areas well suited for infill and redevelopment as well as natural and farm lands to be preserved. Studies and partnerships will also be pursued to establish a Regional Advanced Mitigation Program (RAMP), a strategic habitat and agricultural land conservation-planning program that identifies mitigation solutions for infrastructure projects early in the planning process.

net migration into the region, population growth, household formation and employment growth. Moreover, Connect SoCal identifies areas within the region sufficient to house near-term and long-term growth and support a diverse economy and workforce. For additional details on the Growth Vision and Forecasted Development Pattern, see the Sustainable Communities Strategy Technical Report.

Key investments are coupled with our Forecasted Development Pattern to optimize the regional transportation system and accommodate the increased service and infrastructure demands posed by land-use changes. Connect SoCal's transportation investments are financially constrained to reflect core and reasonably available revenues and are progressively integrated with projected land use patterns and coordinated across transportation modes to advance plan goals.

By integrating the Forecasted Development Pattern with a suite of financially constrained transportation investments, Connect SoCal can reach the regional target of reducing greenhouse gases, or GHGs, from autos and light-duty trucks by 8 percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels). Moreover, this integration can yield tangible outcomes that make our everyday travel needs easier when compared to a future without the plan — for example, the combined work trips made by carpooling, active transportation, and public transit increases by 3 percent and travel delay reduces by 26 percent per capita.

## SUSTAINABLE COMMUNITIES STRATEGY

As part of the state's mandate to reduce per-capita GHG emissions from automobiles and light trucks, Connect SoCal presents strategies and tools that are consistent with local jurisdictions' land use policies and incorporate best practices for achieving the state-mandated reductions in GHG emissions at the regional level through reduced per-capita vehicle miles traveled (VMT).

These strategies identify how the SCAG region can implement Connect SoCal and achieve related GHG reductions. It is important to note that SCAG does not have a direct role in implementing the Sustainable Communities Strategy

—neither through decisions about what type of development goes where, nor what transportation projects are ultimately built. However, SCAG works to support local jurisdictions and partnerships by identifying ways to implement the Sustainable Communities Strategy (SCS) in a way that fits the vision and needs of each local community. Additionally, SCAG serves as a leader as well as a hub to convene stakeholders and to find ways to collaborate on broader regional initiatives. See the Sustainable Communities Strategy Technical Report for more details on GHG reduction and implementation of the SCS.

The following strategies are intended to be supportive of implementing the regional Sustainable Communities Strategy. Several are directly tied to supporting related GHG reductions while others support the broader goals of Connect SoCal:

### Focus Growth Near Destinations & Mobility Options

- Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations
- Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets
- Plan for growth near transit investments and support implementation of first/last mile strategies
- Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses
- Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods
- Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations)
- Identify ways to “right size” parking requirements and promote alternative parking strategies (e.g. shared parking or smart parking)

### Promote Diverse Housing Choices

- Preserve and rehabilitate affordable housing and prevent displacement
- Identify funding opportunities for new workforce and affordable housing development
- Create incentives and reduce regulatory barriers for building context-sensitive accessory dwelling units to increase housing supply
- Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions

### Leverage Technology Innovations

- Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space
- Improve access to services through technology—such as telework and telemedicine as well as other incentives such as a “mobility wallet,” an app-based system for storing transit and other multi-modal payments
- Identify ways to incorporate “micro-power grids” in communities, for example solar energy, hydrogen fuel cell power storage and power generation

### Support Implementation of Sustainability Policies

- Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions
- Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations
- Support local jurisdictions in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects, including parks and open space
- Work with local jurisdictions/communities to identify opportunities and assess barriers to implement sustainability strategies
- Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region
- Continue to support long range planning efforts by local jurisdictions
- Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy

### Promote a Green Region

- Support development of local climate adaptation and hazard mitigation plans, as well as project implementation that improves community resiliency to climate change and natural hazards
- Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration
- Integrate local food production into the regional landscape
- Promote more resource efficient development focused on conservation, recycling and reclamation
- Preserve, enhance and restore regional wildlife connectivity
- Reduce consumption of resource areas, including agricultural land
- Identify ways to improve access to public park space

# LAND USE TOOLS

## CENTER FOCUSED PLACEMAKING

Creating dynamic, connected built environments that support multimodal mobility, reduced reliance on single-occupancy vehicles, and reduced GHG emissions is critical throughout the region. Center focused placemaking is an approach that supports attractive and functional places for Southern California residents to live, work and play, in urban, suburban and rural settings. Although center focused placemaking can be applied in a wide range of settings, priority must be placed, however, on urban and suburban infill, in existing/planned service areas and, for unincorporated county growth, within the planning boundary known as "Spheres of Influence" (SOI) where applicable and feasible.

Successful centers are typically human-scale, compact and pedestrian-oriented with a variety of housing types and ranges of affordability. For example, transit-oriented development (TOD) in Transit Priority Areas (TPAs) and high quality transit areas (HQTAs) within centers and nodes along corridors can play a pivotal role in supporting compact development that is less reliant on single-occupancy vehicles. Elements of center-focused placemaking can be implemented when transit service is neither existing nor planned. Center-focused placemaking includes smart locations and linkages, neighborhood patterns and design and green infrastructure and buildings. Some key elements are specified the Sustainable Communities Strategy Technical Report.

## PRIORITY GROWTH AREAS

Priority Growth Areas (PGAs) follow the principles of center focused placemaking and are locations where many Connect SoCal strategies can be fully realized. Connect SoCal's PGAs—Job Centers, TPAs, HQTAs, Neighborhood Mobility Areas (NMAs), Livable Corridors and Spheres of Influence (SOIs)—account for only 4 percent of region's total land area, but implementation of SCAG's recommended growth strategies will help these areas accommodate 64 percent of forecasted household growth and 74 percent of forecasted employment growth between 2016 and 2045. This more compact form of regional development, if fully realized, can reduce travel distances, increase mobility options, improve access to workplaces, and conserve the region's resource areas.

Jurisdictions should continue to be sensitive to the possibility of gentrification and employ strategies to mitigate negative community impacts – particularly in PGAs. Although the region will see benefits from infill development, communities are encouraged to actively acknowledge and plan for potential impacts including displacement. Production and preservation of permanent affordable housing to complement infill strategies is essential to achieving equitable outcomes.

Exhibits for priority growth areas and growth constraints, spheres of influence, job centers, transit priority areas, high quality transit areas, and neighborhood mobility areas can be found at the end of this chapter (**EXHIBIT 3.4-3.10**). Following is a description of Connect SoCal's PGAs and their associated strategies.

## JOB CENTERS

Job Centers are where regional strategies that support economic prosperity can be deployed in catalytic ways. Job Centers have been identified in all six counties in the SCAG region and represent areas that have a significantly higher employment density than surrounding areas. Employment growth and residential growth are prioritized in existing Job Centers in order to leverage existing density and infrastructure. However, it is recognized that capacity for infrastructure or services may need to be evaluated before residential or employment population is increased in a given area. By encouraging regional growth and employing transportation strategies in the 70+ Job Centers throughout the region, Connect SoCal seeks to reinforce regional economic prosperity. SCAG's methodology to identify Job Centers is not all-inclusive and additional potential centers can be identified.

Job Centers represent areas with local employment peaks rather than simply places with the most jobs. Identified Job Centers are present in over 60 percent of the region's cities and contain about one-third of Southern California's jobs – but only cover less than 1 percent of the region's land area. These Job Centers range in size from over 250,000 jobs in the region's most urbanized areas, to roughly 1,500 jobs in rural areas – all with employment densities far higher than neighboring areas. When growth is concentrated in Job Centers, the length of vehicle trips for residents can be reduced.

## TRANSIT PRIORITY AREAS

Transit Priority Areas (TPAs) are Priority Growth Areas that are within one half mile of existing or planned 'major' transit stops in the region. A 'major' transit stop is defined as a site containing an existing or planned rail or bus rapid transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. TPAs are where TOD can be realized – where people can live, work and play in higher density, compact communities with ready access to a multitude of safe and convenient transportation alternatives.

Focusing regional growth in areas with planned or existing transit stops is key to achieving equity, economic, and environmental goals. Infill within TPAs can reinforce the assets of existing communities, efficiently leveraging existing infrastructure and potentially lessening impacts on natural and working lands. Growth within TPAs supports Connect SoCal's strategies for preserving natural lands and farmlands and alleviates development pressure in sensitive resource areas by promoting compact, focused infill development in established communities with access to high-quality transportation. Although TPAs comprise less than 1 percent of Southern California's land area, around 30 percent of new households are projected to occur within these transit rich areas.

## HIGH QUALITY TRANSIT AREAS

High Quality Transit Areas (HQTAs) are corridor-focused Priority Growth Areas within one half mile of an existing or planned fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes (or less) during peak commuting hours. Freeway transit corridors with no bus stops on the freeway alignment do not have a directly associated HQTA. Like Transit Priority Areas, HQTAs are places where vibrant TOD can be realized and are a cornerstone of land use planning best practice in the SCAG region.

HQTAs represent under 3 percent of the region's acreage but are projected to be home to over 51 percent of new households between 2016 and 2045. Infrastructure investments that support walkable, compact communities that integrate land use and transportation planning for a better functioning built environment are essential within HQTAs. Active transportation and new developments should be context-sensitive, responding to the existing physical conditions of the surrounding area. Sensitively designed TODs can preserve existing development patterns and neighborhood character while providing a balance of modal and housing choices.

## NEIGHBORHOOD MOBILITY AREAS

Neighborhood mobility area (NMAs) focus on creating, improving, restoring and enhancing safe and convenient connections to schools, shopping, services, places of worship, parks, greenways and other destinations. NMAs are Priority Growth Areas with robust residential to non-residential land use connections, high roadway intersection densities and low-to-moderate traffic speeds. NMAs can encourage safer, multimodal, short trips in existing and planned neighborhoods and reduce reliance on single occupancy vehicles. NMAs support the principles of center focused placemaking. Fundamental to neighborhood scale mobility in urban, suburban and rural settings is encouraging "walkability," active transportation and short, shared vehicular trips on a connected network through increased density, mixed land uses, neighborhood design, enhanced destination accessibility and reduced distance to transit.

From 2016 to 2045, nearly 29 percent of new households are projected to be located in NMAs. Although 38 percent of all trips made in the SCAG region are three miles or less, more than 78 percent of these short trips are made by driving. Improving public health and reducing per-capita VMT, and GHG reductions relies on our region's ability to support safe and convenient short trips at the neighborhood scale—by foot, bicycle, micro-mobility devices and slow speed electric vehicles such as e-bikes, scooters, and neighborhood electric vehicles. Adopting and implementing Complete Streets policies supports safer neighborhood mobility and connected, economically dynamic communities. Targeting future growth in these areas has inherent benefits to Southern California residents – providing access to "walkable" and destination-rich neighborhoods to more people in the future.

## LIVABLE CORRIDORS

The Livable Corridor strategy encourages local jurisdictions to plan and zone for increased density at nodes along key corridors, and to "redevelop" single-story under-performing retail with well-designed, higher density housing and employment centers. Growth at strategic nodes along key corridors, many of which are within HQTAs, will make transit a more convenient and viable option. The Livable Corridors strategy is comprised of three components that will encourage context sensitive density, improve retail performance, combat disinvestment, and improve fiscal outcomes for local communities:

- **Transit improvements:** Some corridors have been identified as candidates for on-street, dedicated lane Bus Rapid Transit (BRT) or semi-dedicated "BRT-lite" transit. Other corridors have the potential to support features that improve the user experience and bus performance, including enhanced bus shelters, real-time travel information, off-bus ticketing, all-door boarding and longer distances between stops to increase speeds.
- **Active transportation improvements:** Increased investments in Complete Streets within Livable Corridors and intersecting arterials are essential to support safe bicycling and walking. Investments should include protected lanes to encourage safe bicycling and lower speed mobility, improved pedestrian access and bicycle and micro-mobility parking.
- **Land use policies:** Mixed-use retail centers at key nodes along Livable Corridors are essential, as is increasing neighborhood-oriented retail at intersections, and flexible zoning that allows for the replacement of under-performing auto-oriented retail.

## SPHERES OF INFLUENCE

Local Agency Formation Commissions, or LAFCos, are given the authority to determine SOIs for all local governmental agencies, and each county in the SCAG region has an associated LAFCo. An SOI is a planning boundary outside of a local agency's legal boundary (such as the city limit line) that designates the agency's probable future boundary and service area. The intent of an SOI is to promote the efficient, effective and equitable delivery of local and regional services for existing and future residents and to encourage a collaborative process between agencies. A city will periodically annex parcels in an SOI into the city limits to include new developments or areas with infrastructure needs. Some factors considered in an SOI designation focus on current and future land uses and the need and capacity for services.

Decisions made by LAFCos in the SCAG region can support the implementation of Connect SoCal goals related to infill development, GHG emissions reductions, and climate change resilience. Connect SoCal encourages future unincorporated county growth be prioritized within existing SOIs to discourage urban sprawl and the premature conversion of agricultural and natural lands, support alignment of policies across jurisdictions, and rehabilitate and utilize existing infrastructure. This strategy promotes growth in an efficient manner that limits sprawl and "leapfrog" development and minimizes costs to taxpayers. As a result, 4 percent of the region's future household growth will be located in SOIs outside of incorporated city boundaries from 2016 to 2045.

## GREEN REGION

A sustainable, "green" region requires that the built environment and natural resource areas coexist in a well-balanced land use pattern that encourages mutual co-benefits. The quality and range of conservation, natural and agricultural areas present in the region can be reinforced and enhanced by a range of regional and local tools.

Paired with PGAs, Connect SoCal's conservation strategies consider the economic and ecological benefits of preserving natural areas and farmlands, while also maximizing their potential for GHG reduction. New housing and employment development is emphasized in PGAs such as Job Centers, TPAs, HQTAs and NMAs, and away from natural and farm lands on the edges of urban and suburban areas, to incentivize infill development and the concentration

# APPENDIX C

## CONDITIONAL USE PERMIT BURDEN OF PROOF STATEMENT

# Conditional Use Permit Burden of Proof Statement
# KIPP Ignite Academy (1628 East 81st Street, Los Angeles, CA 90001)

## PROJECT OVERVIEW

The subject property is an approximately 1.06 acre site located within the Florence-Firestone Community Plan area and Florence-Firestone Community Standards District (FF CSD) of the County of Los Angeles, located south of Florence Avenue and West of Alameda Street (site, or subject parcel). The property is improved with a surface parking lot and landscaping.

The KIPP Ignite Academy (a public charter elementary school), is currently operating from two temporary sites located at 9110 South Central Avenue, Los Angeles 90002, and 7651 South Central Avenue, Los Angeles 90002. The South Central Avenue locations lie just west and outside the Florence-Firestone Community boundary. The subject parcel was acquired by the school in 2018 with the intent of constructing a permanent facility for the KIPP Ignite Academy to serve students in Kindergarten (K) through 8th grades.

The proposed Conditional Use Permit (CUP) would allow for the development and construction of a new, two-story permanent school facility with an underground parking garage on the site (Project). The two-story freestanding building will contain 24 classrooms, administrative offices, student and staff restrooms, multipurpose room with an integrated serving area and recreation areas. The current combined enrollment at the school at its temporary locations is 308 students. The maximum enrollment at the subject site would be 600 students. The school will be at full enrollment when the new school building is anticipated to be open in December 2022. The proposed two (2) story Type IIIB building with subterranean parking garage will be a fully sprinklered building with automatic fire alarm and emergency communication system. The total gross building area is 34,044 square feet that includes 17,925 square feet on the first floor and 16,119 square feet on the second floor. The building will be located within the approximately 44,866 SF parcel. The project's Floor Area Ratio (FAR) is 0.758. The site will be improved with an onsite subterranean parking garage, an integrated student pick-up and drop-off area, outdoor recreation areas, landscaping, outdoor safety and security lighting, and perimeter security fencing.

## APPLICANT'S FINDINGS

### *B.1 – General Plan and Zoning Consistency*

As noted, the site is located in unincorporated Los Angeles County and development of the property is subject to the provisions of the FF CSD, in addition to other applicable provisions of the County zoning ordinance. The General Plan Land Use designation for the subject property is H-18 (Residential-18), consistent with all the surrounding properties to the north, south, and west. The H-18 designation allows for residential development at a maximum density of 18 du/acre and supports provision of educational facilities to service residential development. The Project is proposed on an underutilized surface parking lot in a heavily urbanized area of the County, and, as such, constitutes an "infill" development pursuant to the County General Plan. The General Plan supports infill development, as follows (see page 72 of the General Plan):

"**1. Creating Opportunities for Infill Development**

Infill development contributes to compact development, which consumes less land and resources. It can reduce the costs of providing public infrastructure and services. It is important to recognize the opportunities as well as challenges of infill development in the unincorporated areas."

Moreover, Land Use Policy 4.1 of the General Plan further encourages infill development such as the type being proposed, as follows:

"Policy LU 4.1: **Encourage infill development in urban** and suburban **areas on vacant, underutilized, and/or brownfield sites**." (Emphasis added.)

The Project also fulfills the General Plan's goal of facilitating development of vibrant, livable and healthy communities with a mix of land uses, services and amenities. By developing a community-serving public charter elementary school on the property, the Project specifically fulfills other applicable policies of the General Plan:

"Policy LU 5.2: **Encourage a diversity of** commercial and retail services, and **public facilities at various scales to meet regional and local needs**." (Emphasis added.)

"Policy LU 5.2: Support a mix of land uses that promote bicycling and walking and reduce Vehicle Miles Travelled." (Many of the school's students will either walk or bike to this school.)

"Policy LU 5.3. **Encourage community-serving uses, such as** early care and **educational facilities**, grocery stores, farmers markets, restaurants, and banks **to locate near employment centers**." (The school site is located in close proximity to industrial and commercial businesses in the Project vicinity.)

"Policy LU 5.5. **Ensure that <u>all</u> households have access to a sufficient supply** of quality early care and education and supervised school-age enrichment options for children from birth to age 13." (The proposed K-8th grade school directly advances this General Plan policy.)

"Policy LU 5.6. Reduce regulatory and other barriers to early care and education facilities."

"Policy LU 9.3: Encourage patterns of development that increase convenient, safe access to healthy foods, especially fresh produce, in all neighborhoods." (The school will provide the students nourishing lunches and will educate the students regarding the importance of maintaining a healthy diet and active lifestyle.)

"Policy LU 10.4: Promote environmentally-sensitive and sustainable design." (The school will incorporate sustainable design features, such as skylights in corridors to maximize natural light, synthetic turf to minimize water use, adding landscape trees to maximize shading on the south side of the building, low flush toilets, LED lighting throughout, EV charging stations, and overhanging canopies for increased shading.)

All of the subject property's nine adjoining parcels are zoned R-3 (Limited Density Multiple Residence), consistent with the surrounding properties to the north, south, and west. The properties to the east are zoned IL (Light Industrial). The R-3 zone allows limited density multiple residence and permits apartment houses and uses that are permitted in Zones R-1 (Single-Family Residence) and R-2 (Two-Family Residence) (Title 22.18.030.C). The minimum required area (unless otherwise specified) is 5,000 SF/lot (22.110.130.A.4), and the maximum density is 30 units (du)/acre (Title 22.110.120.B).

The Project will be consistent with the "general purpose" of the property's residential zoning designation, provided below (LACC section 22.18.010):

> "*A. General Purpose. Residential Zones preserve, protect, and enhance areas for residential land uses in a range of densities; provide for orderly, well-planned, and balanced growth of residential neighborhoods; and ensure adequate light, air, privacy, and open space for each dwelling. These zones also provide for the <u>appropriate location of public and semi-public uses such as schools, parks, and religious facilities that can serve and complement residential uses</u>." [emphasis added]*

TABLE 22.18.030-B in the “PRINCIPAL USE REGULATIONS FOR RESIDENTIAL ZONES” section of Title 22 indicates that schools serving grades K-12, accredited by the State of California and excluding trade or commercial schools, are allowed uses in the R-3 Zone with a CUP. As such, with approval of the CUP, the proposed Project will be consistent with the General Plan and Florence-Firestone Community Plan Land Use Designation, Los Angeles County Department of Regional Planning Zoning designation, and the FF CSD.

Several of the underground parking spaces are proposed as tandem spaces to accommodate the required parking for the staff at the proposed school while making efficient use of the available space. Tandem parking for non-residential uses is allowed only by parking permit. In accordance with the guidance provided in 22.222.070 and 22.44.1415, KIPP LA will submit an application for a parking permit as part of the entitlement process to allow tandem parking for non-residential uses. With approval of the parking permit, the proposed Project will be consistent with the General Plan and Los Angeles County Department of Regional Planning Zoning designation.

***B.2 - That the requested use at the location will not:***

*a. Adversely affect the health, peace, comfort or welfare of persons residing or working in the surrounding area,*

The current site is a vacant parking lot completely surrounded by dense urban development, with light industrial uses immediately to the east across Maie Avenue, as well as single- and multi-family residential dwellings to the north, west, and south. In addition, as shown below in **Figure 1, Historic Aerial View of the Site,** below, approximately 350 feet to the east of the site and adjacent to the light industrial facilities are four parallel rail sidings, which accommodate the Los Angeles County Metropolitan Transportation Authority’s (Metro’s) Blue Line commuter service and freight service to the industrial facilities. The prior site owner, MJ Textile, used the site as a parking lot and as an informal sorting/staging area, which was a use that detracted from the surrounding residential properties. Additionally, prior to the Applicant’s ownership of the site, trash had collected on the site and the walls had graffiti on them.

It has been established that a school is an acceptable use of the site through the County’s imposition of conditions regulating the construction and operations of the school via the CUP, which conditions are intended to reduce the Project’s potential negative impacts on adjacent properties and the broader neighborhood; therefore, KIPP LA requests a CUP to authorize construction of a new public charter school facility to replace the existing vacant surface parking lot. The school would serve up to 600 students in grades K-8th grade. The proposed school will consist of a two-story building with an underground parking garage, with a maximum height of 35 feet containing 24 classrooms, administrative offices, student and staff restrooms, play yards with an outdoor eating area and a multipurpose room with an integrated food servery area. The school property will be improved with code-compliant onsite vehicular parking, integrated student drop-off and pick-up areas, an outdoor recreation area, landscaping, outdoor lighting and perimeter security fencing.

The exterior architectural finishes and the massing of the building have been designed to create rich and welcoming street elevations, which are made up of contrasting materials and color. The base of the building is finished in plaster and there are generous amounts of standing seam metal panels used on key portions of the elevations. The standing seam provides color and texture, and shadow at these important elevations. The massing and articulation of the building has been designed to create interest and to announce entry points into the building. At the residential edges of the site, the mass of the building has been pulled back to respect the privacy of the neighbors. Landscaping will further improve the aesthetics of the site, while the planting of trees, hedges and a perimeter wall with flowering vines and fencing will appropriately buffer and screen the new school from the adjacent existing residences.

**Figure 1, Historic Aerial View of the Site.**

The existing surrounding roadways are fully developed and currently accommodate commercial and industrial vehicle types and traffic volumes. These roadways are adequate to support the additional traffic volume generated by the new school facility. The construction of the school is part of the "orderly, well-planned, and balanced growth of  the residential neighborhoods" and the proposed site is situated in the appropriate location.

Therefore, approval of a CUP would not adversely affect the health, peace, comfort or welfare of residents, workers, or visitors in the immediate area. In fact, the Project will serve to replace the existing vacant parking lot with a new charter school that prevents further trash collecting on the site and eliminates the current abandoned condition that occurs adjacent to existing residences. The school building and associated landscaping will also provide a visual screen between these residences and the rail and industrial uses to the east. Lastly, the Project will provide an alternative to the existing local schools for local residents.

*b. Be materially detrimental to the use, enjoyment or valuation of property of other persons located in the vicinity of the site, and*

As previously stated, the currently vacant site had, in the recent past under prior ownership, served as a parking lot and a debris sorting/staging site. This past use of the site could be considered as detrimental to the use, enjoyment, or valuation of property of other persons located in the vicinity (see above historical aerial of the property, showing unattractive storage operations then conducted thereon). The new school proposed on the site will remove the opportunity for the site to be used in such a manner again and provide the local community with a newly designed state-of-the-art, beautiful school building with associated landscaping that will improve the aesthetics of the neighborhood while offering local children a public charter school as an educational alternative to the existing local schools. The proposed new school facility will be a community serving institution and enhance the local community as it will be professionally cared for and maintained by school staff in perpetuity. The improvements being proposed on the subject parcel will be complimentary to existing uses as a community serving asset and be a transition between the single- and multi-family residential structures on 81st and 82nd Streets and the adjacent commercial and light industrial uses along Maie Ave. The new school hours of operation will be Monday through Friday, from 7:45 a.m. to 4:00 p.m. with the after-school program operating from 4:00 p.m. to 6:00 p.m. During after-school hours and on weekends, the school property will be secured by a secured perimeter fence and will remain largely inactive. These hours of operation reflect typical working hours; therefore, the school operations will not disturb the surrounding residents' evenings and weekends. Completion of the school will improve the quality of the current site and should prove beneficial to the valuation of the adjacent properties—inasmuch as an attractive school facility is preferable to an unused surface parking lot with a history of trash dumping and graffiti tagging. As such, the Project will not be materially detrimental to the use, enjoyment, or valuation of property of other persons located in the vicinity of the site.

*c. Jeopardize, endanger or otherwise constitute a menace to the public health, safety or general welfare.*

The Applicant's proposed improvements on the subject parcel and the subsequent operations of the school would not serve to jeopardize, endanger, or otherwise constitute a menace to the public health, safety, or general welfare. To the contrary, the proposed school will only positively serve the public welfare by improving the current vacant parking lot and providing local residents an attractive, well-administered public charter school alternative.

Code-compliant parking will be provided onsite for school staff and public transportation options are also available. As shown in **Table 1, Distance from the Site to Public Transit Stops,** below, the site is located in an area serviced by multiple bus and train lines. It is anticipated that various faculty and staff will utilize these public transit options, which, in combination with Code-compliant onsite parking, will minimize impacts to local street parking.

**Table 1, Distance from the Site to Public Transit Stops**

| Mass Transit | Stop/Address | Distance to School |
|---|---|---|
| Metro Blue Line Train | Firestone Station | 0.42 miles |
| Metro Blue Line Train | Florence Station | 0.60 miles |
| Metro Bus #254 | Maie Ave./82 St. | 260 feet |
| Metro Bus #55 | Compton Ave./81st St. | 850 feet |
| Metro Bus #202 | Compton Ave./81st St. | 850 feet |
| Metro Bus #355 | Compton Ave./81st St. | 850 feet |

It is anticipated that, since the school will serve grades K through 8, most children will either walk, ride bikes, or be driven from the surrounding area. In compliance with County requirements, the Project would provide three long-term and 100 short-term bicycle parking spaces. The presence of the school is not expected to increase the intensity of uses in the area; rather, it will redistribute a percentage of the long-standing existing school population from existing schools to the new charter school facility.

All proposed development will be undertaken in accordance with the various planning, engineering, public health and fire safety, and applicable resource agency regulations controlling development of the subject parcel. Finally, as noted, conditions of approval will be incorporated in the CUP to help ensure operational components of the Project are appropriately monitored and controlled. These factors will combine to help ensure the Project will not jeopardize, endanger or otherwise cause a menace to the public health, safety, and general welfare.

***B.3 - That the proposed site is adequate in size and shape to accommodate the yards, walls, fences, parking and loading facilities, landscaping and other development features prescribed in this Title 22, or as is otherwise required in order to integrate said use with the uses in the surrounding area.***

As depicted on the Site Plan for the subject parcel filed with the Project Application, the approximately one-acre subject parcel is more than adequate in size and shape to accommodate the yards, walls, fences, parking and loading facilities and other development features prescribed in the County Zoning Code.

***B.4 - That the proposed site is adequately served:***

*a. By highways or streets of sufficient width, and improved as necessary to carry the kind and quantity of pedestrian, bicycle, and vehicle traffic such use would generate; and*

The site lies in a completely urbanized area adequately served by fully improved local and regional roadways. The site is bounded by East 81st Street to the north, East 82nd Street to the south, Maie Avenue to the east, and Miramonte Boulevard to the west. These are fully improved surface streets. Compton Avenue is one block further west and is a major roadway serviced by multiple bus lines, and Nadeau Street is two blocks north of the site and is also served by public transit. Firestone Boulevard is located to the south of the site, and Florence Avenue is located north of the site. These major roadways intersect the 110 Freeway to the west and the 710 Freeway to the east. These roadways will continue to adequately serve vehicle trips that will be generated by the Project.

The proposed Project will impose no higher traffic burden than current roadways can accommodate. Moreover, the proposed Project will result in enhancements to internal driveway configurations, with dedicated drop-off and pick-up lanes, as well as surface conditions intended to streamline access, including student pick up and drop off ingress from East 81st Street and egress at Maie Avenue. This will allow school traffic to pull off the local roadways and enter the campus to discharge and pick-up students in the morning and evening hours. Onsite underground parking for 53 vehicles is provided via an entry and exit on 82nd Street. These enhancements will provide adequate and efficient access for emergency vehicles and apparatuses serving the site. Local roads are improved with sidewalks to accommodate student pedestrian traffic to and from the school. As required by Code, the school will provide 100 short-term and three long-term bicycle parking spaces for the students on campus. Given the potential for students to walk and bike to the school, vehicular usage of local roads associated with the Project is not anticipated to be significant, even during peak days and times.

Therefore, the Project will be adequately served by highways and streets that are of sufficient width, and are improved as necessary, to carry the kind and quantity of pedestrian, bicycle, and vehicle traffic that the proposed school use will generate.

*b. By other public or private service facilities as are required.*

Current public and private service facilities will continue to be fully adequate for the proposed school use. The Project is expected to be served by Southern California Edison (SCE) and Southern California Gas Company. SCE provided a will-serve letter, dated July 9, 2020 which stated that SCE will serve the Project's electrical requirements. The proposed building and mechanical design comply with the Cal Green standards. Energy conservation features of the Project may include sustainable features associated with lighting and insulation. The current design also includes shading overhangs, a white cool roof, low albedo reflective paving and large canopy trees. The roof will contain infrastructure for future photovoltaic panel installation. Fire and emergency public services will continue to be provided by the Los Angeles County Fire Department, while police service will continue to be provided by the Los Angeles County Sheriff's Department, Century Station, in Lynwood.

# Vehicle Queuing Analysis

# APPENDIX I-2

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# MEMORANDUM

To: Los Angeles County Public Works
Date: September 15, 2021

From: David S. Shender, P.E.
Jason A. Shender, AICP
Linscott, Law & Greenspan, Engineers
LLG Ref: 5-19-0456-1

Subject: **Vehicle Queuing Analysis for the KIPP Ignite Academy Project**
**1628 E. 81st Street**

This memorandum has been prepared by Linscott, Law & Greenspan, Engineers (LLG) to provide a queuing analysis related to the KIPP Ignite Academy project (the "Project") located at 1628 E. 81st Street within the Florence-Firestone Community Plan Area and Community Standards District of unincorporated Los Angeles County (the "Project Site"). The Project Site is currently vacant, and is bounded by 81st Street to the north, 82nd Street to the south, single-family homes to the west, and Maie Avenue to the east. The Project proposes the development and construction of a new two-story permanent school facility with 24 classrooms, administrative offices, student and staff restrooms, multipurpose room with an integrated serving area, and recreation areas. The Project will accommodate a maximum enrollment of 600 students. Specifically, the Project proposes to serve 360 students in Kindergarten through 4th grade and 240 students in the 5th through 8th grades. The Project Site location and general vicinity are shown in ***Figure 1***. The site plan and proposed site access scheme for the Project is presented in ***Figure 2***.

## Vehicular Project Site Access and Student Drop-Off/Pick-Up Operations

Ingress traffic movements to the Project Site are proposed to be accommodated via one inbound-only driveway along the south side of 81st Street, on the northerly portion of the Project Site. For student drop-off and pick-up operations, motorists will be instructed to make a right-turn into the site's drop-off/pick-up area at the northerly portion of the Project Site via the proposed driveway along the south side of 81st Street, travel within the proposed onsite drop-off/pick-up lane, complete the student drop-off or pick-up, and then exit from the proposed driveway along the west side of Maie Avenue via a right-turn movement. It is noted that the right-turn ingress and egress movements (i.e., the restriction on left-turn ingress and egress movements) will only be enforced during drop-off/pick-up hours.

The drive aisle accommodating the onsite drop-off/pick-up area lane is approximately 28 feet in width, which is sufficient to accommodate two lanes of queued vehicles. Furthermore, each drive aisle provides approximately 151.5 feet of queuing distance from the 81st Street driveway to the student drop-off/pick-up point. As such, the proposed drop-off/pick-up area will accommodate two lanes of queued vehicles within the site and can therefore accommodate a total of approximately 15 vehicles queued within the Project Site. It is noted that a minimum of four traffic monitors will be onsite to assist students in safely crossing the double queue of vehicles during the drop-off and pick-up periods. Two additional traffic monitors will be stationed at the entrance and exit driveways (one per driveway) to direct vehicles entering the drop-off/pick-up area into two lanes and to direct vehicles exiting the drop-off/pick-up area out onto Maie Avenue. In addition to directing vehicles, the driveway monitors will also serve as crossing guards to facilitate safe crossings across the driveways. During the student pick-up period, a staff member will announce when a student's ride has arrived to ensure an efficient pick-up. Further, cones will be placed onsite to direct motorists and facilitate drop-off/pick-up.

It is noted that the ingress driveway along the south side of 81st Street is proposed to accommodate right-turn vehicular ingress only (i.e., left-turn ingress movements will not be permitted, and egress movements will not be permitted). In addition, the egress driveway along the west side of Maie Avenue is proposed to accommodate right-turn vehicular egress only during drop-off/pick-up periods (i.e., ingress movements will not be permitted, and right-turn egress movements will not be permitted during the drop-off/pick-up period). It is noted that the turning restrictions will only be enforced during drop-off/pick-up hours. Thus, motorists will be permitted to make left-turn ingress and egress movements outside of drop-off/pick-up periods. Signs will be posted at the ingress and egress driveways indicating the turning restrictions. The traffic monitors onsite will also assist with indicating turning restrictions to motorists. Community outreach will be provided to the public, including administrative staff, parents/caregivers, and neighboring residents, regarding the school's traffic management plan. Therefore, motorists destined to the Project will be aware of the right-turn only ingress operation at the 81st Street driveway and will plan their travel routes in advance so as to arrive at the Project Site via eastbound 81st Street. A roadway signing/striping plan will be prepared for the immediate Project Site vicinity if required by Public Works.

Furthermore, the Project proposes to stagger the start and dismissal times of the proposed elementary and middle schools by a minimum of 20 minutes. For example, the middle school component (i.e., Grades 5 through 8) would commence at 7:40 AM, and the elementary school component (i.e., Kindergarten through 4th grade) would commence at 8:00 AM. By staggering the student start and dismissal times by 20 minutes, the arrival of traffic is dispersed over a longer period of time.

## Estimated Peak Vehicle Queue

Private vehicles are the main component that contributes to the vehicle queuing analysis during the peak student drop-off and pick-up periods. The analysis focuses on the morning student drop-off period as the pick-up of students tends to be dispersed on a relative basis throughout the afternoon, particularly as students are involved with after-school activities.

The proposed Project is forecast to generate 205 inbound trips and 175 outbound trips during the AM peak hour as shown in ***Table 1***. The trip generation forecast was prepared based on trip rates provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*.[1]

It is presumed that the ITE trip rates are based on trip generation studies of existing schools without staggering of start and dismissal times. As noted above, the Project proposes to stagger the start times of the proposed elementary and middle schools by at least 20 minutes, thereby likely resulting in the dispersing of Project-related trips beyond the 60-minute window for which the trip forecast is yielded through use of the ITE peak hour trip rates. However, to provide a conservative "worst case" analysis of vehicle queuing at the Project Site, it is assumed that the peak hour trip forecast provided by use of the ITE trip rates will occur within a 60-minute period.

A review of the Project Site location, pedestrian walkway network, and nearby public transit stops indicates that pedestrian movements can be accommodated as part of the Project. Streets in the immediate Project vicinity are improved with sidewalks. Students and employees traveling to and from the Project Site by walking or public transit can safely access the Project Site via the existing pedestrian network and enter the Project site via pedestrian entrances along the Project's 81st Street, Maie Avenue, and 82nd Street frontages. It is also noted that the Project Site is within one-half mile of the Firestone Station, a Major Transit Stop, which is served by the Metro A Line (Blue). While it is anticipated that some students and employees will utilize public transportation for travel to and from the Project Site, a transit adjustment was not made to provide a conservative forecast of the Project's trip generation.

As the ITE trip rates do not distinguish between trips related to staff arrivals and student drop-offs in the morning, it can be generally assumed that the 175 outbound trips during the AM peak hour would correlate with at least 175 inbound trips during this period related to student drop-off operations. The remaining inbound vehicle trips during the AM peak hour are likely due to administrative staff, visitors, etc. Therefore, for this queuing analysis, it has been assumed that 175 vehicles would utilize the onsite vehicle queue area as part of the student drop-off operations.

It is noted that parking for the Project will be provided in an onsite subterranean parking garage located at the southerly portion of the Project Site. Access to the parking garage will be provided via one driveway along the north side of 82nd Street. Student drop-off/pick up will not be permitted within the onsite parking garage. While the student drop-off/pick-up area is located on the northern portion of the Project Site, away from the onsite subterranean parking garage, administrative staff will be instructed to arrive at the Project Site prior to the commencement of the student drop-off period to prevent interference with student drop-off operations.

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[1] Institute of Transportation Engineers *Trip Generation Manual*, 10th Edition, Washington, D.C., 2017.

Thus, by arriving at the Project Site before the drop-off period, staff are not expected to interfere with student drop-off operations.

As requested by Public Works, the M/M/s queuing model was used to prepare the onsite queuing analysis. The M/M/s queuing model will calculate average queuing, as well as peak queues at various confidence levels. For this analysis, the peak queue at the 95th percentile confidence level was utilized, which is similar to the confidence level used in the design of left-turn pocket lengths at intersections.

The model requires the input of three parameters: average arrival rate per hour, the number of servers (i.e., adult monitors assisting students to and from cars), and average service rate per hour for each adult monitor. For this analysis, the model inputs are based on an arrival rate of 175 vehicles per hour accommodated by the four monitors (servers), with each monitor able to process one car per minute (or 60 vehicles per hour) during the student drop-off period. As previously stated, the start times of the Project's middle school and elementary school will be staggered by a minimum of 20 minutes, thereby dispersing the arrival of traffic over a longer period of time. However, this conservatively assumes that the forecast arrival of traffic will occur over a 60-minute period.

The M/M/s queuing calculations[2] prepared for the Project are provided in ***Appendix A***. As shown *Appendix A*, the average queue is approximately 4.2 vehicles (customers). As further shown in the table provided in *Appendix A*, at the 95th percent confidence level (precisely, 94.79% as shown in *Appendix A*), the maximum onsite queue is calculated to be 10 vehicles.

As previously noted, the onsite drop-off/pick-up area can accommodate 15 queued vehicles, which can readily accommodate the forecast peak queue of 10 vehicles. Accordingly, Project-related trips are not expected to queue onto 81st Street. Therefore, it is concluded that the planned onsite vehicle queuing area can adequately accommodate the forecast peak queue of 10 vehicles during the morning student drop-off operation at the Project.

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[2] *Tutorial on Queuing Theory,* Kardi Teknomo, 2014.

## Summary

This memorandum has been prepared to provide a queuing analysis related to the proposed KIPP Ignite Academy located at 1628 E. 81st Street within the Florence-Firestone Community Plan Area and Community Standards District of unincorporated Los Angeles County. The Project proposes the development and construction of a new two-story permanent school facility with 24 classrooms, administrative offices, student and staff restrooms, multipurpose room with an integrated serving area, and recreation areas. The Project will accommodate a maximum enrollment of 600 students. Specifically, the Project proposes to serve 360 students in Kindergarten through 4th grade and 240 students in the 5th through 8th grades.

The findings of the queuing analysis are as follows:

- For student drop-off and pick-up operations, motorists will be directed to enter the site's drop-off/pick-up area by making a right-turn from 81st Street, travel through the onsite drop-off/pick-up lane, complete the student drop-off or pick-up, and then exit onto Maie Avenue via a right-turn movement. Signs will be posted at the ingress and egress driveways indicating turning restrictions. Traffic monitors will also assist in directing vehicles through the drop-off/pick-up area and cones will be placed onsite to facilitate drop-off/pick-up.

- The start and dismissal times of the Project's middle school and elementary school components will be staggered by a minimum of 20 minutes, thereby dispersing the arrival of traffic over a longer period of time.

- The Project's onsite drop-off/pick-up area can accommodate 15 queued vehicles within two lanes of queuing.

- Using trip generation rates published by ITE and based on the M/M/s queuing model, it is forecast that during the morning student drop-off period, the Project will generate an average queue of 4.2 vehicles and a peak queue of 10 vehicles. This peak queue can be accommodated by the Project's drop-off/pick-up area which can accommodate 15 queued vehicles onsite. The Project will not cause vehicles to queue onto 81st Street.

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Figure 1
Vicinity Map

KIPP Ignite Academy Project

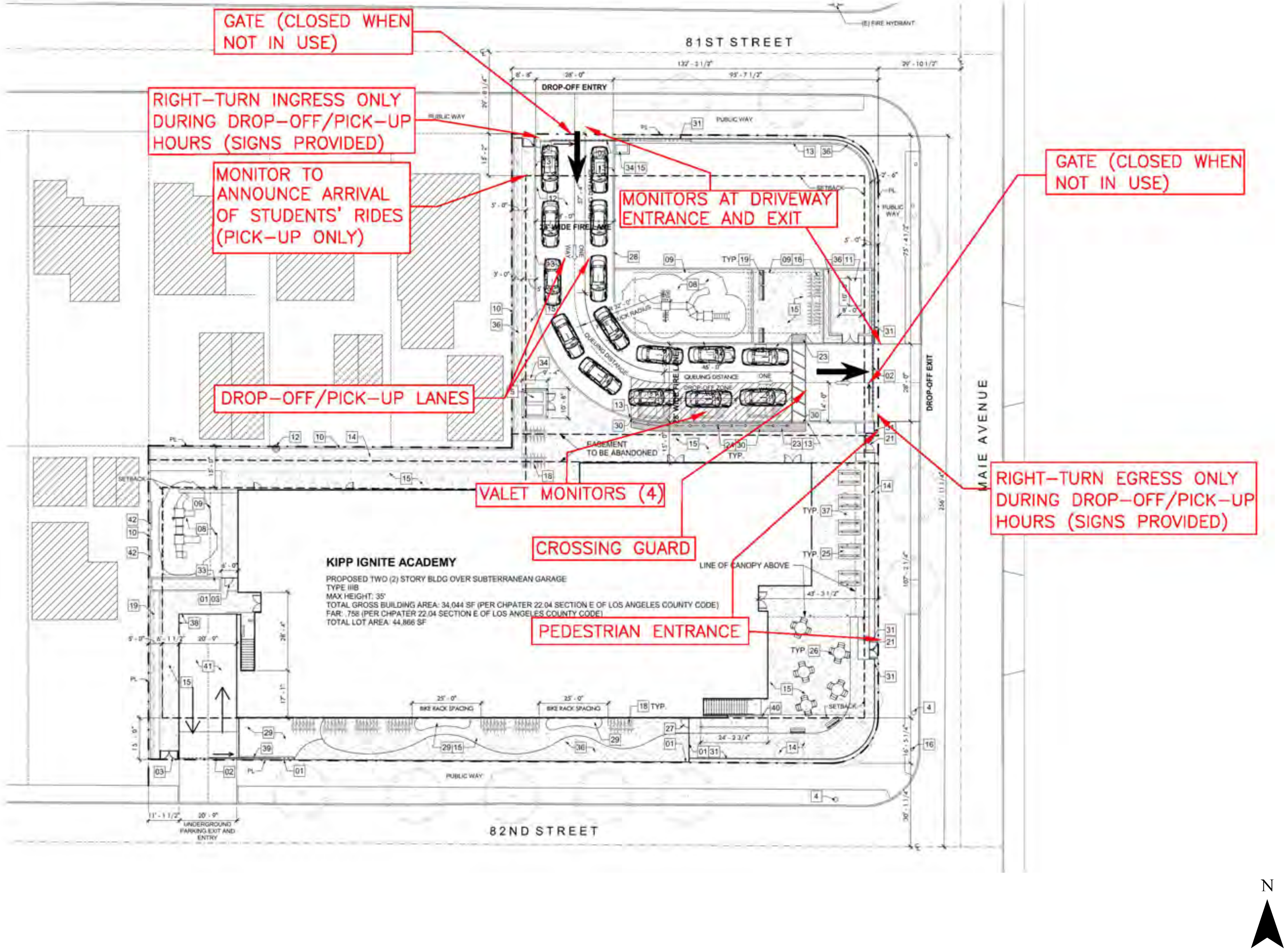

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Figure 2
Project Site Plan

# Table 1
# PROJECT TRIP GENERATION [1]

14-Sep-21

| LAND USE | SIZE | DAILY TRIP ENDS [2] VOLUMES | AM PEAK HOUR VOLUMES [2] IN | AM PEAK HOUR VOLUMES [2] OUT | AM PEAK HOUR VOLUMES [2] TOTAL | PM PEAK HOUR VOLUMES [2] IN | PM PEAK HOUR VOLUMES [2] OUT | PM PEAK HOUR VOLUMES [2] TOTAL |
|---|---|---|---|---|---|---|---|---|
| ***Proposed Project*** | | | | | | | | |
| Charter Elementary School [3] | 360 Students | 680 | 130 | 111 | 241 | 29 | 32 | 61 |
| Charter Middle School [4] | 240 Students | 511 | 75 | 64 | 139 | 20 | 21 | 41 |
| **NET INCREASE DRIVEWAY TRIPS** | | **1,191** | **205** | **175** | **380** | **49** | **53** | **102** |

[1] Source: ITE *"Trip Generation Manual,* 10th Edition, 2017.
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 520 (Elementary School) trip generation average rates per number of students.
- Daily Trip Rate: 1.89 trips/student; 50% inbound and 50% outbound
- AM Peak Hour Trip Rate: 0.67 trips/student; 54% inbound/46% outbound
- PM Peak Hour Trip Rate: 0.17 trips/student; 48% inbound/52% outbound

[4] ITE Land Use Code 522 (Middle School/Junior High School) trip generation average rates per number of students.
- Daily Trip Rate: 2.13 trips/student; 50% inbound and 50% outbound
- AM Peak Hour Trip Rate: 0.58 trips/student; 54% inbound/46% outbound
- PM Peak Hour Trip Rate: 0.17 trips/student; 49% inbound/51% outbound

# APPENDIX A

## M/M/S QUEUING MODEL OUTPUT

**Queuing M/M/s (Multi-Channel)**

| | | |
|---|---|---|
| Arrival rate, lambda | 175 | customers/hour |
| Mean service time, miu | 60 | customers/hour |
| Number of servers, s | 4 | (max = 50) |

**Economic Analysis of Queue**

| | | |
|---|---|---|
| Waiting cost per time period per each unit, Cw | 1 | $/Hour |
| Service cost per time period for each channel, Cs | 1 | $/Hour |

**Queuing Performances**

| | | |
|---|---|---|
| utilization single server, rho | 2.916666667 | |
| Utilization factor, U | 73% | *OK* |
| Prob. Empty system, P0 | 4% | |
| Average queue length Lq | 1.2788 | customers |
| Average system length L | 4.1955 | customers |
| Average waiting in queue Wq | 0.0073 | hour = |
| Average waiting in system W | 0.0240 | hour = |
| Prob. of waiting | 47.50% | |
| ***Optimum number of servers*** | 4 | |

This workbook is a companion of **Kardi Teknomo's tutorial** on

**Queuing Theory**

Visit the complete version of this tutorial in

http://people.revoledu.com/kardi/tutorial

$$P_0 = \left(\sum_{n=0}^{s-1}\frac{\rho^n}{n!} + \frac{\rho^s}{s!}\left(\frac{s\mu}{s\mu-\lambda}\right)\right)^{-1}$$

**Computation of the Probability of empty server, P0**

| n | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| adden for each n | 1 | 2.9167 | 4.2535 | 4.1353 | 3.0153 | 1.7589 | 0.855 | 0.3563 | 0.1299 | 0.0421 | 0.0123 | 0.0033 | 0.0008 | 0.0002 | 4E-05 | 7E-06 | 1E-06 |
| denominator adden | 1 | 2.9167 | 4.2535 | 4.1353 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| n | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| adden for each n | 2E-07 | 4E-08 | 6E-09 | 8E-10 | 1E-10 | 2E-11 | 2E-12 | 2E-13 | 3E-14 | 3E-15 | 3E-16 | 3E-17 | 3E-18 | 3E-19 | 3E-20 | 3E-21 | 3E-22 |
| denominator adden | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| n | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| adden for each n | 2E-23 | 2E-24 | 1E-25 | 1E-26 | 9E-28 | 7E-29 | 5E-30 | 3E-31 | 2E-32 | 2E-33 | 1E-34 | 7E-36 | 4E-37 | 3E-38 | 2E-39 | 1E-40 | 5.77119E-42 |
| denominator adden | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Computation of Optimization Table**

| Number of servers, k | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average system length, L | 100 | 100 | 36.096 | 4.1955 | 3.2191 | 3.0006 | 2.9402 | 2.923 | 2.9183 | 2.9171 | 2.9168 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Service cost | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Waiting Cost | 100 | 100 | 36.096 | 4.1955 | 3.2191 | 3.0006 | 2.9402 | 2.923 | 2.9183 | 2.9171 | 2.9168 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Total cost | 101 | 102 | 39.096 | 8.1955 | 8.2191 | 9.0006 | 9.9402 | 10.923 | 11.918 | 12.917 | 13.917 | 14.917 | 15.917 | 16.917 | 17.917 | 18.917 | 19.917 |
| optimum server | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Number of servers, k | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average system length, L | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Service cost | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| Waiting Cost | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Total cost | 20.917 | 21.917 | 22.917 | 23.917 | 24.917 | 25.917 | 26.917 | 27.917 | 28.917 | 29.917 | 30.917 | 31.917 | 32.917 | 33.917 | 34.917 | 35.917 | 36.917 |
| optimum server | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

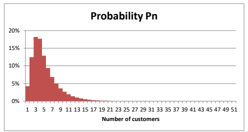
| Number of servers, k | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average system length, L | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Service cost | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| Waiting Cost | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Total cost | 37.917 | 38.917 | 39.917 | 40.917 | 41.917 | 42.917 | 43.917 | 44.917 | 45.917 | 46.917 | 47.917 | 48.917 | 49.917 | 50.917 | 51.917 | 52.917 |
| optimum server | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

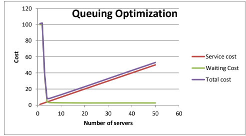
**Queuing Performances Table**

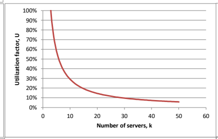
| Number of servers, k | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| utilization single server, rho | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Utilization factor, U | 292% | 146% | 97% | 73% | 58% | 49% | 42% | 36% | 32% | 29% | 27% | 24% | 22% | 21% | 19% | 18% | 17% |
| Prob. Empty system, P0 | 0.0% | 0.0% | 0.6% | 4.3% | 5.1% | 5.3% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% |
| Average queue length Lq | 100 | 100 | 33.179 | 1.2788 | 0.3024 | 0.084 | 0.0235 | 0.0063 | 0.0016 | 0.0004 | 9E-05 | 2E-05 | 4E-06 | 7E-07 | 1E-07 | 2E-08 | 3E-09 |
| Average system length L | 100 | 100 | 36.096 | 4.1955 | 3.2191 | 3.0006 | 2.9402 | 2.923 | 2.9183 | 2.9171 | 2.9168 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Average waiting in queue Wq | 100 | 100 | 0.1896 | 0.0073 | 0.0017 | 0.0005 | 0.0001 | 4E-05 | 9E-06 | 2E-06 | 5E-07 | 1E-07 | 2E-08 | 4E-09 | 7E-10 | 1E-10 | 2E-11 |
| Average waiting in system W | 100 | 100 | 0.2063 | 0.024 | 0.0184 | 0.0171 | 0.0168 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 |
| Prob. of waiting, Pw | 0.0% | 0.0% | 94.8% | 47.5% | 21.6% | 8.9% | 3.3% | 1.1% | 0.3% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

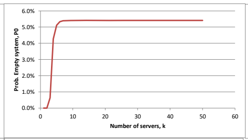
| Number of servers, k | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| utilization single server, rho | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Utilization factor, U | 16% | 15% | 15% | 14% | 13% | 13% | 12% | 12% | 11% | 11% | 10% | 10% | 10% | 9% | 9% | 9% | 9% |
| Prob. Empty system, P0 | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% |
| Average queue length Lq | 5E-10 | 6E-11 | 9E-12 | 1E-12 | 1E-13 | 2E-14 | 2E-15 | 2E-16 | 2E-17 | 2E-18 | 2E-19 | 2E-20 | 2E-21 | 2E-22 | 2E-23 | 1E-24 | 1E-25 |
| Average system length L | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Average waiting in queue Wq | 3E-12 | 4E-13 | 5E-14 | 7E-15 | 8E-16 | 1E-16 | 1E-17 | 1E-18 | 1E-19 | 1E-20 | 1E-21 | 1E-22 | 1E-23 | 1E-24 | 1E-25 | 8E-27 | 7E-28 |
| Average waiting in system W | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 |
| Prob. of waiting, Pw | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

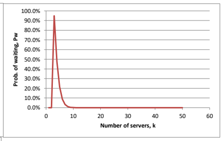
| Number of servers, k | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| utilization single server, rho | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Utilization factor, U | 8% | 8% | 8% | 8% | 7% | 7% | 7% | 7% | 7% | 7% | 6% | 6% | 6% | 6% | 6% | 6% |
| Prob. Empty system, P0 | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% | 5.4% |
| Average queue length Lq | 1E-26 | 8E-28 | 6E-29 | 4E-30 | 3E-31 | 2E-32 | 2E-33 | 1E-34 | 7E-36 | 4E-37 | 3E-38 | 2E-39 | 1E-40 | 6E-42 | 4E-43 | 2E-44 |
| Average system length L | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 | 2.9167 |
| Average waiting in queue Wq | 6E-29 | 4E-30 | 3E-31 | 2E-32 | 2E-33 | 1E-34 | 9E-36 | 6E-37 | 4E-38 | 3E-39 | 2E-40 | 1E-41 | 6E-43 | 4E-44 | 2E-45 | 1E-46 |
| Average waiting in system W | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 | 0.0167 |
| Prob. of waiting, Pw | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

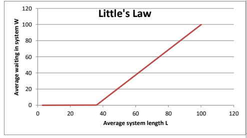


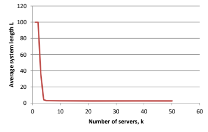


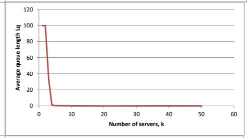


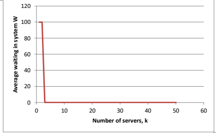


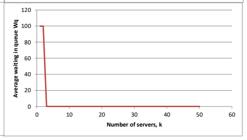












| Number of customers | Probability | Sum |
|---|---|---|
| 0 | 4.27% | 4.27% |
| 1 | 12.44% | 16.71% |
| 2 | 18.15% | 34.86% |
| 3 | 17.64% | 52.50% |
| 4 | 12.86% | 65.36% |
| 5 | 9.38% | 74.74% |
| 6 | 6.84% | 81.58% |
| 7 | 4.99% | 86.57% |
| 8 | 3.64% | 90.21% |
| 9 | 2.65% | 92.86% |
| 10 | 1.93% | 94.79% |
| 11 | 1.41% | 96.20% |
| 12 | 1.03% | 97.23% |
| 13 | 0.75% | 97.98% |
| 14 | 0.55% | 98.53% |
| 15 | 0.40% | 98.93% |
| 16 | 0.29% | 99.22% |
| 17 | 0.21% | 99.43% |
| 18 | 0.15% | 99.58% |
| 19 | 0.11% | 99.70% |
| 20 | 0.08% | 99.78% |
| 21 | 0.06% | 99.84% |
| 22 | 0.04% | 99.88% |
| 23 | 0.03% | 99.91% |
| 24 | 0.02% | 99.94% |
| 25 | 0.02% | 99.95% |
| 26 | 0.01% | 99.97% |
| 27 | 0.01% | 99.98% |
| 28 | 0.01% | 99.98% |
| 29 | 0.00% | 99.99% |
| 30 | 0.00% | 99.99% |
| 31 | 0.00% | 99.99% |
| 32 | 0.00% | 100.00% |
| 33 | 0.00% | 100.00% |
| 34 | 0.00% | 100.00% |
| 35 | 0.00% | 100.00% |
| 36 | 0.00% | 100.00% |
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| 40 | 0.00% | 100.00% |
| 41 | 0.00% | 100.00% |
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| 47 | 0.00% | 100.00% |
| 48 | 0.00% | 100.00% |
| 49 | 0.00% | 100.00% |
| 50 | 0.00% | 100.00% |
| >50 | 0.00% | 100.00% |
| Sum | 100.00% | |

This workbook is a companion of **Kardi Teknomo's tutorial** on

**Queuing Theory**

Copyright © 2014 by Kardi Teknomo

Visit the complete version of this tutorial in http://people.revoledu.com/kardi/tutorial

# Vehicle Queuing Analysis Memo

# APPENDIX I-3

**COUNTY OF LOS ANGELES**

**DEPARTMENT OF PUBLIC WORKS**

*“To Enrich Lives Through Effective and Caring Service”*

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
http://dpw.lacounty.gov

**MARK PESTRELLA, Director**

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

November 9, 2021

IN REPLY PLEASE
REFER TO FILE: T-4

Mr. David S. Shender
Linscott, Law & Greenspan, Engineers
20931 Burbank Boulevard, Suite C
Woodland Hills, CA 91367

Dear Mr. Shender:

**1628 EAST 81ST STREET**
**TRAFFIC QUEUING ANALYSIS**
**UNINCORPORATED FLORENCE-FIRESTONE AREA**

We have reviewed the Traffic Queuing Analysis report dated September 15, 2021, for the proposed KIPP Ignite Academy project at 1628 East 81st Street in the unincorporated Florence-Firestone area.

According to the Traffic Queueing Analysis report, the proposed school will accommodate the expected peak-hour vehicle queues on-site. We generally agree with the findings in the Traffic Queueing Analysis report; however, the project shall adhere to the conditions listed below:

**Site Access Requirements**

- The site shall accommodate at least 15 vehicles in queue.

- The site shall provide ingress via right-turn only on 81st Street and egress via right-turn only onto Maie Avenue during drop-off and pick-up hours.

- The site shall restrict left turn ingress on 81st Street and left turn egress onto Maie Avenue during drop-off and pick-up hours.

**Site Procedures**

- To ensure the expected peak-hour vehicle queues are accommodated on-site, the project applicant shall provide staff (six minimum) to monitor and direct on-site vehicle traffic during drop-off and pick-up times and to assist students in safely crossing driveways and the double queue of vehicles.

- The project applicant shall install and maintain signs at the ingress/egress driveways indicating the turning restrictions during the drop-off/pick-up period.

- The project applicant shall stagger the start and dismissal times of the middle school and elementary school components by a minimum of 20 minutes.

If you have any questions, please contact Mr. Stephen Lamm, Traffic Safety and Mobility Division, at (626) 300-4764 or slamm@pw.lacounty.gov.

Very truly yours,

MARK PESTRELLA, PE
Director of Public Works

AMIR IBRAHIM
Principal Engineer
Traffic Safety and Mobility Division

JA:dj
SP:\TSM\DOC\STU\LTRS AND MEMOS\2021-11-9 - ESTU2020000762 1628 E 81ST ST QUEUING ANALYSIS MEMO.DOCX

bc: Land Development (Suarez, Lasso)

# APPENDIX J

# AB 52 Consultation Letters

# TRIBAL CULTURAL RESOURCES ("AB 52")

## Compliance Checklist

(Initial Study Attachment)

**Note: Prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, this checklist must be completed and attached to the Initial Study.**

**Procedural Compliance**

1. **Has a California Native American Tribe (s) requested formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe?**

   **X** Yes Tribe(s) to notify: _Gabrieleno Band of Mission Indians, San Gabriel Band of Mission Indians

   ☐ No **(**End of process)

2. **Notification letter (s) informing the California Native American Tribe (s) of the proposed project was mailed on** ____October 19, 2021_____________________, **which was within 14 days when project application was determined complete or the County decided to undertake a project.**

3. **Did the County receive a written request for consultation from the California Native American Tribe(s) within 30 days of when formal notification was provided?**

   **X** Yes Date: __Gabrieleno Band of Mission Indians- (October 21, 2021)___________

   **X** No **(**End of process) San Gabriel Band of Mission Indians___________________

4. **Consultation process with the California Native American Tribe(s) consisted of the following:**
   Department of Regional Planning staff (DRP) held a consultation meeting with representatives of the Gabrieleno Band of Mission Indians on January 4, 2022 to discuss the project, tribal cultural resources, and potential mitigation measures. The Gabrieleno Band of Mission Indians' representatives sent supplemental information and draft mitigation measures to DRP on January 20, 2022. Final mitigation measures were agreed to on February 24, 2022.

5. **Consultation process concluded on** _____February 24, 2022_______________ **by either of the following:**

☐ The parties concluded that no mitigation measures are necessary

**X** The parties agreed to measures to mitigate or avoid a significant effect on a tribal cultural resource (see attached mitigation measures)

☐ The County acted in good faith and after reasonable effort, concluded that mutual agreement cannot be reached.

# GABRIELENO BAND OF MISSION INDIANS – KIZH NATION - PROPOSED TCR MITIGATION MEASURES

## TCR-1: Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities

A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.
B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.
C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.
D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.
E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

## TCR-2: Unanticipated Discovery of Human Remains and Associated Funerary Objects

A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.
B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section

7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.

C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).
D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).)
E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.
F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

<u>TCR-3: Procedures for Burials and Funerary Remains:</u>

A. As the Most Likely Descendant ("MLD"), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains.
B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.
C. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials.
D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed.
E. In the event preservation in place is not possible despite good faith efforts by the project

applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects.

F. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

G. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

Los Angeles County
Department of Regional Planning

*Planning for the Challenges Ahead*

Amy J. Bodek, AICP
Director

10/19/2021

Andrew Salas, Chairman
Gabrieleno Band of Mission Indians
PO Box 393
Covina, CA 91723

**RE:** Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of the Proposed Project pursuant to Public Resources Code (PRC) §21080.3.1.

The Los Angeles County Department of Regional Planning is issuing this formal notification of the proposed project. Below please find a description of the proposed project, a map showing the project location, and our contact information along with the name of our point of contact, pursuant to PRC §21080.3.1(d).

**Proposed Project:** KIPP Academy
Project No. 2019-002271-(2)
Conditional Use Permit No. RPPL2019004082
Parking Permit No. RPPL2020005800
Environmental Plan No. RPPL2021000118

**Project Description:** A request for a Conditional Use Permit to authorize a new public charter school facility for Grades K-4. The proposed school consists of a 34,842 square foot, two story, 35-foot-tall building containing 26 classrooms. A 4,700-square-foot outdoor landscaping and playground area is proposed. The project site is 1.09 acres in size and is currently vacant. The site was previously used as a parking lot.

**Project Location:** 1628 81st Street, Florence-Firestone
APN: 6027-003-032

**Lead Agency Contact Information:**
Sean Donnelly, Regional Planner
Metro Deleopment Services Section
Department of Regional Planning
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012
Tel: (213) 974-6411
Email: sdonnelly@planning.lacounty.gov

Pursuant to PRC §21080.3.1(b), you have 30 days from the receipt of this letter to request consultation, in writing, with the Department of Regional Planning. Written request must be submitted to the contact information listed above.

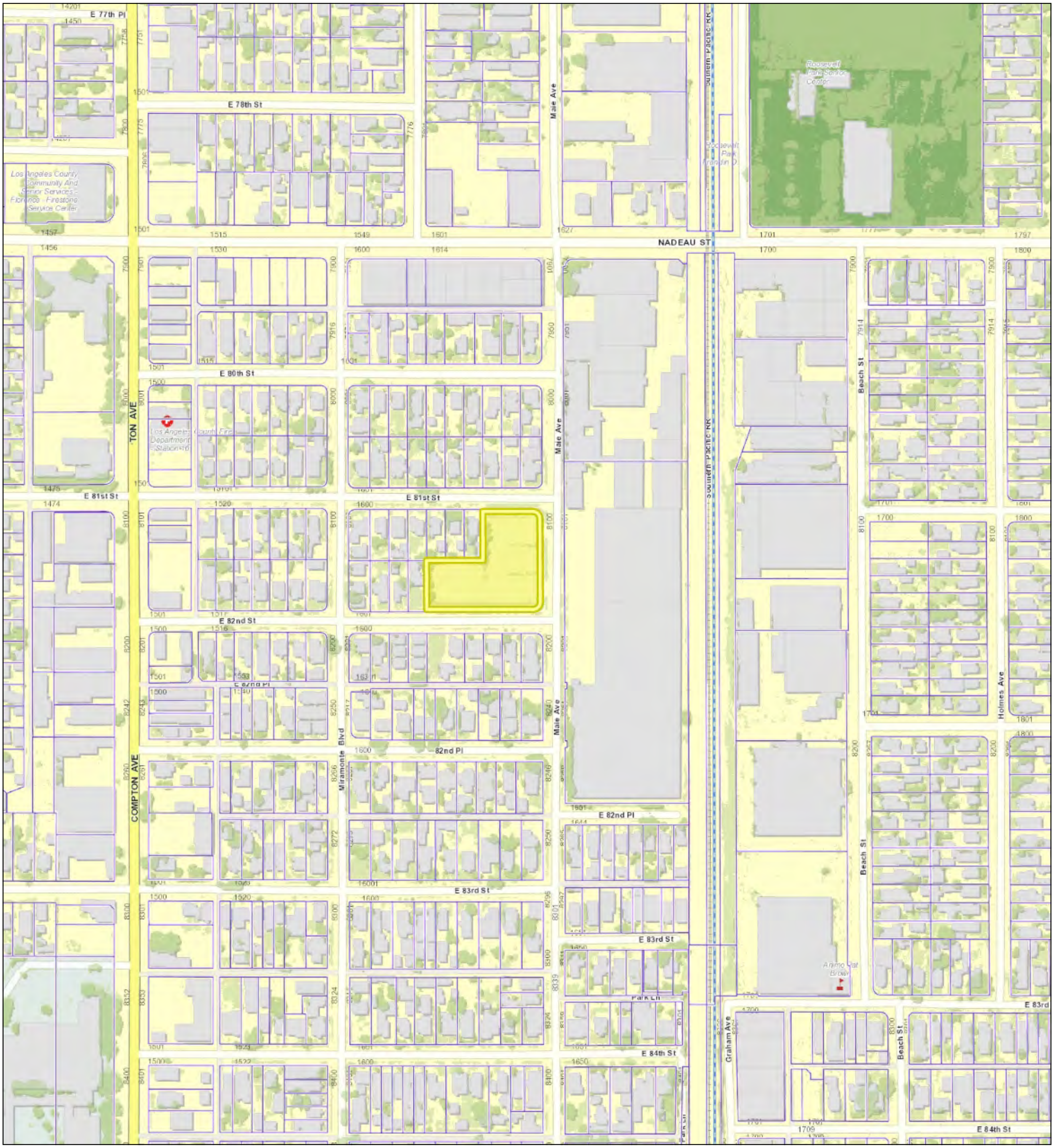
Sincerely,
DEPARTMENT OF REGIONAL PLANNING
Amy J. Bodek, AICP
Director

Sean Donnelly

Sean Donnelly, Regional Planner
Metro Development Services Section

Encl: Map of Project Location

CS:SD



# Project Location 2019-002271

94 188 Feet

Printed: 10/19/21

Disclaimer:This map represents a quick representation of spatial imagery or vector layers using GIS-NET. The map should be interpreted in accordance with the GIS-NET Public disclaimer statement. Printed with permission from the Los Angeles County Dept. of Regional Planning. All rights reserved.

Los Angeles County
Department of Regional Planning

*Planning for the Challenges Ahead*

Amy J. Bodek, AICP
Director

10/19/2021

Anthony Morales, Chief
San Gabriel Band of Mission Indians
PO Box 693
San Gabriel, CA 91778

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320 W. Temple Street, 13th Floor
Los Angeles, CA 90012
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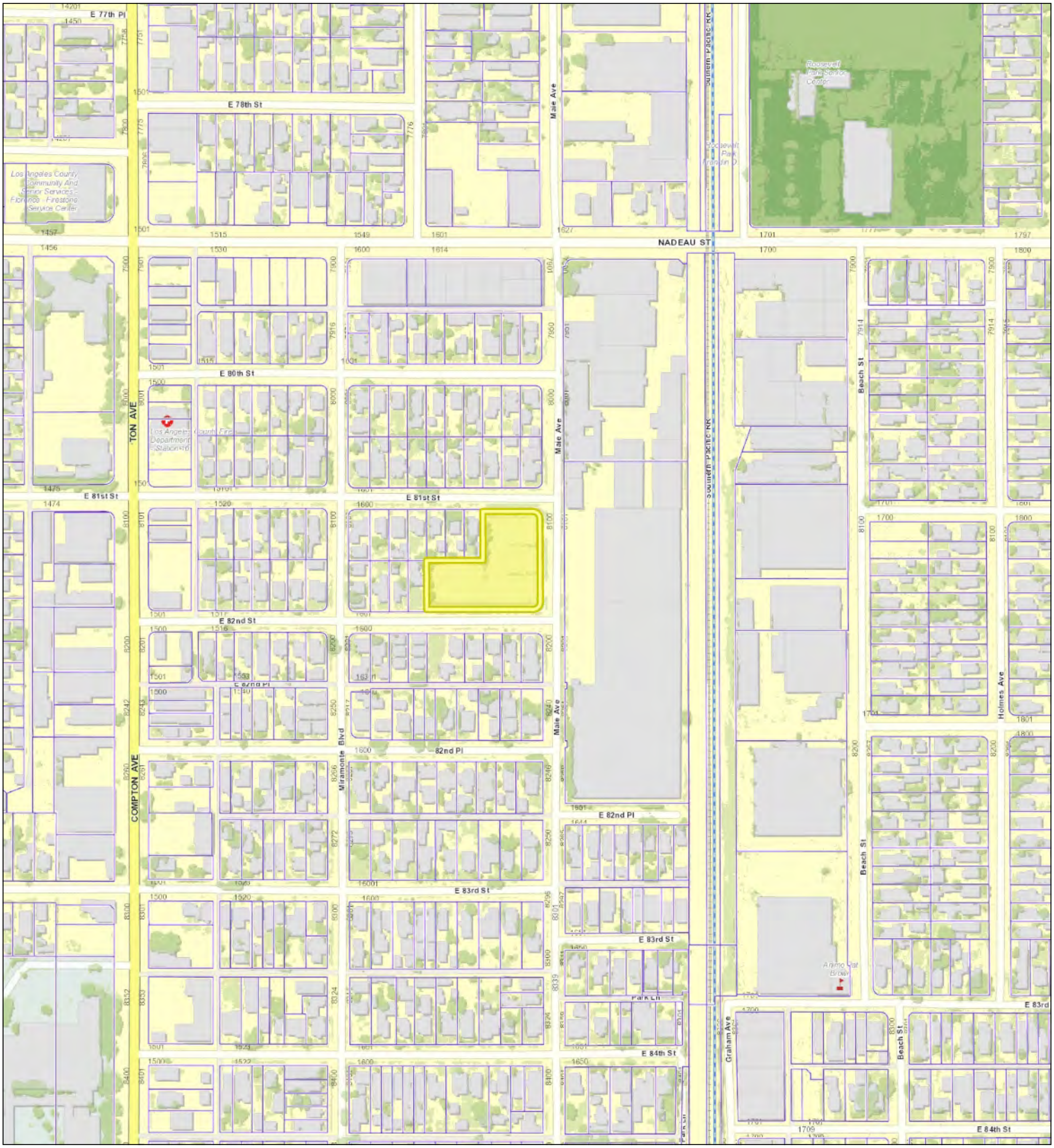
Sincerely,
DEPARTMENT OF REGIONAL PLANNING
Amy J. Bodek, AICP
Director

Sean Donnelly

Sean Donnelly, Regional Planner
Metro Development Services Section

Encl: Map of Project Location

CS:SD



# Project Location 2019-002271

94 188 Feet

Printed: 10/19/21

GABRIELENO BAND OF MISSION INDIANS - KIZH NATION
Historically known as The Gabrielino Tribal Council - San Gabriel Band of Mission Indians
recognized by the State of California as the aboriginal tribe of the Los Angeles basin

October 21, 2021

Project Name: KIPP Academy Project No. 2019-002271-(2) Located 1628 81st St. Florence - Firestone APN: 6027-003-032 Los Angeles County

Dear Sean Donelly,

Thank you for your letter dated October 19,2021 regarding AB52 consultation. The above proposed project location is within our Ancestral Tribal Territory; therefore, our Tribal Government requests to schedule a consultation with you as the lead agency, to discuss the project and the surrounding location in further detail.

Please contact us at your earliest convenience. ***Please Note:AB 52, "consultation" shall have the same meaning as provided in SB 18 (Govt. Code Section 65352.4).***

Thank you for your time,

Andrew Salas, Chairman
Gabrieleno Band of Mission Indians – Kizh Nation
1(844)390-0787

PO Box 393 Covina, CA 91723 admin@gabrielenoindians.org

# Mitigation Monitoring Reporting Program

# APPENDIX K

# KIPP LA IGNITE ACADEMY SCHOOL PROJECT
# MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

| MITIGATION MEASURE | ACTION REQUIRED | MITIGATION TIMING | MONITORING RESPONSIBILITY |
|---|---|---|---|
| **AIR QUALITY** | | | |
| **AQ-1**<br>As shown in the Los Angeles County, Department of Public Health, Coccidioidomycosis (Valley Fever) Management Plan: Guideline for Employers, the Project will provide construction and operations personnel training to understand and manage the risks associated with Valley Fever prior to initiation of construction activities. Training will include information on how to recognize the symptoms of Valley Fever and way to minimize exposure, proper cleaning procedures to minimize accidental exposure, and demonstrations on how to use personal protective equipment, such as respiratory protection and skin and eye protection. | Provide construction and operation personnel training regarding Valley Fever. | Prior to initiation of construction activities. | Los Angeles County Department of Public Health |
| **BIOLOGICAL RESOURCES** | | | |
| **BIO-1 Pre-Construction Nesting Bird Surveys**<br>Project construction will result in the removal of vegetation and disturbances to the ground and therefore may result in take of nesting native bird species. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests | Provide pre-construction nesting bird surveys if construction activities occur within nesting bird season (March 1 – August 31). | 30 days prior to disturbance activities of suitable nesting habitat. | Los Angeles County Department of Regional Planning (LADRP) |

| MITIGATION MEASURE | ACTION REQUIRED | MITIGATION TIMING | MONITORING RESPONSIBILITY |
|---|---|---|---|
| including raptors and other migratory non-game birds (as listed under the Federal MBTA).<br>• Project construction activities (including disturbances to native and non-native vegetation, structures and substrates) should take place outside of the breeding bird season which generally runs from March 1- August 31 (as early as February 1 for raptors) to avoid take (including disturbances which will cause abandonment of active nests containing eggs and/or young). Take means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (Fish and Game Code Section 86).<br>• If construction activities cannot feasibly avoid the breeding bird season, beginning thirty days prior to the disturbance of suitable nesting habitat, the applicant shall:<br>a. Arrange for weekly bird surveys to detect any protected native birds in the habitat to be removed and any other such habitat within properties adjacent to the Project site, as access to adjacent areas allows. The surveys shall be conducted by a qualified biologist with experience in conducting breeding bird surveys. The surveys shall continue on a weekly basis with the last survey being conducted no more than 3 days prior to the initiation of clearance/construction work. | | | |

| MITIGATION MEASURE | ACTION REQUIRED | MITIGATION TIMING | MONITORING RESPONSIBILITY |
|---|---|---|---|
| b. If a protected native bird is found, the applicant shall delay all clearance/construction disturbance activities within 300 feet of suitable nesting habitat for the observed protected bird species until August 31.<br>c. Alternatively, the Qualified Biologist could continue the surveys to locate any nests. If an active nest is located, clearing and construction within 300 feet of the nest or as determined by a qualified biological monitor, shall be postponed until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting. The buffer zone from the nest shall be established in the field with flagging and stakes. Construction personnel shall be instructed on the sensitivity of the area.<br>d. The applicant shall record the results of the recommended protective measures described above to document compliance with applicable State and Federal laws pertaining to the protection of native birds. Such record shall be submitted and received into the case file for the associated discretionary action permitting the Project. | | | |
| **CULTURAL RESOURCES** | | | |
| **CUL-1**<br>An archaeological monitor that meets the Secretary of Interior qualifications will be on site during Project ground disturbance until older alluvium or | If buried material of potential archaeological significant are unexpectantly discovered, all work within 50 feet of the potentially | During grading and construction activities. | LADRP |

| MITIGATION MEASURE | ACTION REQUIRED | MITIGATION TIMING | MONITORING RESPONSIBILITY |
|---|---|---|---|
| bedrock are encountered. Modern fill does not require monitoring. The archaeological monitor will collect any older historic material that is uncovered through grading and can halt construction within 50-feet of a potentially significant cultural resource, if necessary. Artifacts collected from a disturbed context or that do not warrant additional assessment can be collected without the need to halt grading. A final Project Monitoring Report will be produced that discusses all monitoring activities and all artifacts recovered through monitoring.<br>If potentially significant intact deposits are encountered that are within an undisturbed context, then a cultural resource "discovery" protocol will be followed. If buried materials of potential-archaeological significance are accidentally discovered within an undisturbed context during any earth-moving operation associated with the proposed Project, then all work in that area shall be halted or diverted away from the discovery to a distance of 50-feet until a qualified senior archaeologist can evaluate the nature and/or significance of the find(s). | significant cultural resource must be halted until a qualified archaeologist can evaluate the discovery and follow the appropriate discovery protocol.<br>Production of a final Project Monitoring Report. | | |
| **CUL-2**<br>The inadvertent discovery of human remains is always a possibility during ground disturbances; State of California Health and Safety Code Section 7050.5 addresses these findings. This code section | If the inadvertent discovery of human remains occurs during ground disturbance activities, no further disturbance shall occur until the County Coroner has made a | During grading and construction activities. | LADRP |

| MITIGATION MEASURE | ACTION REQUIRED | MITIGATION TIMING | MONITORING RESPONSIBILITY |
|---|---|---|---|
| states that in the event human remains are uncovered, no further disturbance shall occur until the County Coroner has made a determination as to the origin and disposition of the remains pursuant to PRC Section 5097.98. The Coroner must be notified of the find immediately, together with the City and the property owner.<br>If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials and an appropriate re-internment site. The Lead Agency and a qualified archaeologist shall also establish additional appropriate mitigation measures for further site development, which may include additional archaeological and Native American monitoring or subsurface testing. | determination and all State of California Health and Safety Code Section 7050.5 protocols are followed. | | |
| **GEOLOGY AND SOILS** | | | |
| **GEO-1**<br>Prior to the issuance of a grading or building permit, the Project Applicant shall incorporate the recommendations provided in the Geotechnical Engineering Investigation dated July 29, 2020 prepared by Geotechnologies, Inc., and the | Incorporate all recommendations provided in the Geotechnical Engineering Report. | Prior to issuance of a grading or building permit. | Los Angeles Department of Building and Safety (LADBS) |

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| Response to County of Los Angeles Department of Public Works Geologic and Soils Engineering Review Sheet, prepared by Geotechnologies, Inc., and dated July 19, 2021 into final Project plans to the satisfaction of the County of Los Angeles Department of Building and Safety. | | | |
| **HAZARDS AND HAZARDOUS MATERIALS** | | | |
| **HAZ-1**<br>The areas with elevated concentrations of lead shall be removed and disposed of off-site prior to grading activities. During grading, a field x-ray fluorescence spectrometry (XRF) unit shall be used to monitor the potential for additional locations to contain lead that may be encountered. If elevated concentrations of lead are encountered, that soil should be segregated and analyzed to determine whether it can be utilized as fill or must be removed from the site and disposed of as non-hazardous waste. | Remove soils in areas with elevated lead concentrations, if soils contain elevated lead levels, segregate, and analyze soils to determine if soil can be used as fill or removed off-site. | Prior to grading activities. | Los Angeles County Department of Public Works (LADPW) |
| **NOISE** | | | |
| **NOI-1 Temporary Construction Noise Barriers**<br>The Project's proposed concrete masonry unit (CMU) wall at the western and northwestern perimeter shall be constructed prior to the grading phase of construction. The Project's wall will provide a reduction of at least 4 dBA at the nearest residences. As an alternative to prior construction | Construct proposed CMUs at western and northwestern site perimeter, or alternatively, provide a temporary construction barrier or sound absorbing barrier. | Prior to grading activities. | LADPW |

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| of the Project's proposed CMU wall, a temporary construction barrier or prefabricated sound-absorbing barrier shall be placed at the western and northwestern site perimeters at the shared property lines of the adjacent residences shall be in place during the demolition, grading, building construction, and paving phases of construction. The barrier shall be of sufficient height and length to block line of sight to the receptors. A barrier with a height of 18 feet above the existing ground level constructed of 1-inch plywood (or two layers of ½-inch plywood) or a material with a transmission loss of at least 30 dB at 500 Hertz would provide a reduction of 20 dBA at the nearest residences, even further below the required performance standards of the County noise control ordinance.<br>When generators or air compressors are used on site, they shall have sound mufflers in good working order and be shielded by a temporary construction barrier consisting of ¾-inch plywood or a material with a transmission loss of at least 22 dB at 500 Hertz located around the equipment and/or be surrounded by an equivalent construction grade sound blanket. The barrier shall be at least 11 feet high and no less than 4 feet taller than the top edge of the noise generator, and of sufficient length to block line of site to the adjacent residences to the west and northwest. Such a barrier will provide a reduction of 12 dBA at the nearest residences. | | | |

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| **NOI-2 Rooftop HVAC Screening**<br>To reduce operational Heating, Ventilation and Air Conditioning (HVAC) noise levels at the nearest sensitive receptors, the Project shall construct a noise attenuation barrier or barriers on the western and northwestern portions of the project rooftop around the HVAC equipment to shield the adjacent residences to the west of the project site. The barrier(s) shall be of sufficient height to fully obscure line-of-sight from the rooftop HVAC units to the adjacent residences to the west, shall be constructed of a material with a surface density of at least 4 pounds per square foot, and shall be free of gaps to the extent feasible. | Construct a noise attenuation barrier or barriers on the western and northwestern portions of the rooftop around the HVAC equipment. | During construction activities. | LADPW |
| **NOI-3 Construction Equipment Vibration Restrictions**<br>Within the Project site, loaded trucks shall not operate within 40 feet of any occupied residences or within 10 feet of any off-site building. | Prevent operation of loaded trucks within 40 feet of residences or 10 feet of off-site buildings. | During construction activities. | LADPW |
| **TRIBAL CULTURAL RESOURCES** | | | |
| **TCR-1 Native American Monitoring**<br>The Project applicant shall retain a professional Native American monitor who has a cultural affiliation to the Project region to observe all ground disturbing activities of intact or potentially intact native soils. Ground disturbing activities include, but are not limited to, site clearing and grubbing, grading, excavation, and trenching. Monitoring will take place for the duration of such activities until older alluvial deposits or bedrock is | Retain a Native American monitor with cultural affiliation to the site. | During ground disturbing activities of native soils. | LADRP |

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| encountered, which are pre-Holocene geological contexts that do not have prehistoric Native American cultural resources. Fill deposits will not require monitoring.<br>If prehistoric or Native American ethnographic cultural resources are encountered during Project grading or earth moving within an undisturbed native soils context, the Native American monitor will have the authority to redirect earth moving activities away from the location of the discovery by 30-feet in order to assess and document the potential find(s). A principal archaeologist for the Project will be immediately informed, who will assess whether the inadvertent discovery protocol for cultural resources should be followed, as outlined under Recommendation-2. If the discovery protocol is not triggered, normal monitoring can resume. Any material collected by the monitor from disturbed contexts can be curated by the monitor until the end of the project (see Recommendation-3) or placed outside of the Project development footprint in a location that will not be impacted. | | | |
| **TCR-2 Discovery Protocol for the Unexpected Discovery of Native American Artifacts or Features**.<br>If potentially significant intact prehistoric or Native American ethnographic deposits are encountered that are within an undisturbed context, then the | If potentially significant intact prehistoric of Native American ethnographic deposits are encountered, follow the cultural resource discovery protocol and halt all work within 30-feet of the | During ground disturbing activities of native soils. | LADRP |

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| Project cultural resource "discovery" protocol will be followed. All work in the vicinity of the discovery shall be halted or diverted away from the discovery to a distance of 30-feet until a qualified archaeological principal can evaluate the nature and/or significance of the find(s). If the archaeological principal (not the field monitor) confirms that the discovery is potentially significant, then the Lead Agency will be contacted and informed of the discovery.<br>Construction will not resume in the locality of the discovery until consultation between the principal archaeologist, the applicant's representative, the Lead Agency, and all Native American tribal group representatives who have a cultural affiliation with the Project region, takes place and reaches a conclusion approved by the Lead Agency. If a significant resource is discovered during earth-moving, complete avoidance of the find is preferred. However, if the discovery cannot be avoided, further survey work, evaluation tasks, or data recovery of the significant resource may be required by the Lead Agency. The Lead Agency may also require changes to Project monitoring, based on the discovery. | discovery until a principal archaeologist has made a determination. | | |
| **TCR-3 Reburial of Native American Artifacts** If discovery consultation leads to an agreement by the Project principal archaeologist, the Native American monitor, and the Lead Agency that | If discovery consultation leads to an agreement by the principal archaeologist, Native American monitor and Lead Agency that the | During ground disturbing activities of native soils. | LADRP |

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| artifacts associated with a Tribal Cultural Resource (TCR) have been discovered within an undisturbed native soils context, then the Lead Agency shall consult with all Native American Tribal Group representatives who have a cultural affiliation with the Project region, as to the disposition and treatment of any prehistoric or Native American ethnographic materials encountered during Project construction. Once all Native American groups have been consulted with, the Lead Agency will then select a course of action for the reburial of all uncovered artifacts. | artifact is associated with a TCR, the Lead Agency shall consult with the Native Tribal Group representatives regarding a course of action for reburial of all uncovered artifacts. | | |